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No. 4

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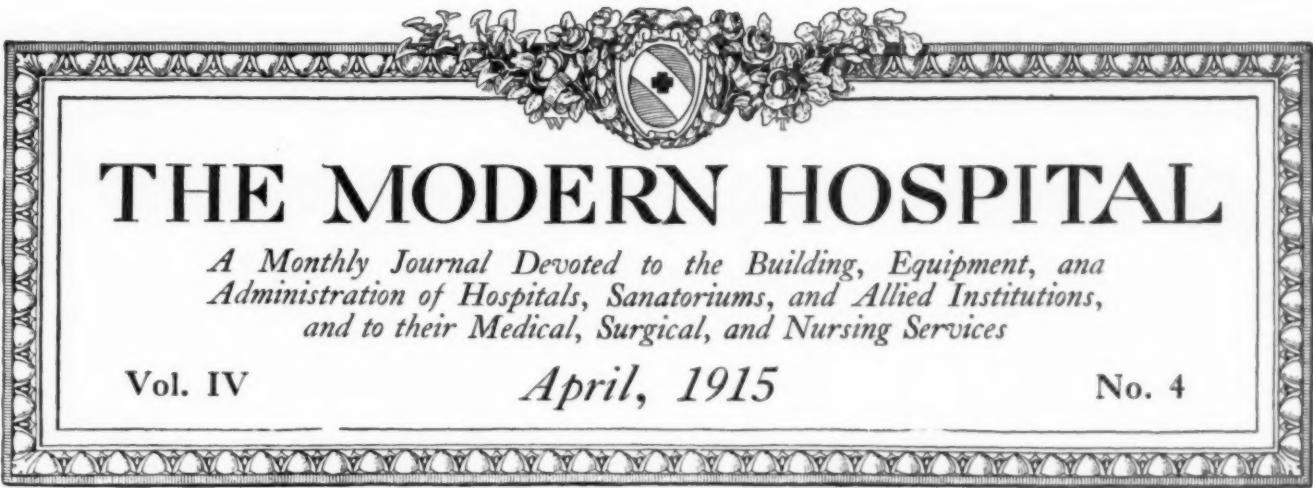
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# THE MODERN HOSPITAL

*A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services*

Vol. IV

April, 1915

No. 4

## THE GALLOWAY MEMORIAL HOSPITAL OF NASHVILLE, TENN.

**A Group of Three Buildings Designed for Free and Private Patients, Affiliated With Vanderbilt University—A Modern, Fireproof Group, Having All the Essentials for Caring for the Sick and Affording Facilities for Medical Teaching**

BY REV. A. E. CLEMENT, SECRETARY-COMMISSIONER, AND MR. H. E. HANNAFORD, OF SAMUEL HANNAFORD & SONS, ARCHITECTS, CINCINNATI

### INTRODUCTION BY DR. CLEMENT

THE Galloway Memorial Hospital, located at Nashville, Tenn., had its origin in the necessity, at the heart of the South, for a great scientific plant where the sick might be cared for, the problems of disease solved, and better training provided for medical men.

It took the form of a Protestant hospital, but its friends, realizing the need of locating the responsibility and leadership in order to guarantee success, asked the Methodist Church to take the lead. For this reason, it was organized under the auspices of the Methodist Episcopal Church, South, with the requirement that two-thirds of its Board should be members of this Church. It was named as a memorial for Charles B. Galloway, a bishop of the Southern Methodist Church, and a man whose sympathies and interest in humanity were worldwide. The hospital thus incorporated and controlled, though Methodist in responsibility, will be interdenominational in its service.

Bishop W. R. Lambuth and Dr. J. A. Witherpoon, former President of the American Medical Association, were largely instrumental in inaugurating and perfecting the plans. Rev. A. E. Clement, one of the original trustees, was elected commissioner and has, from the beginning, been guiding its policies. The present officers are: President, P. D. Maddin; Vice-presidents, Bishop W. R. Lambuth and O. E. Brown; Secretary and Commissioner, A. E. Clement; Treasurer, First Savings Bank & Trust Company.

Early in its formation, the promoters realized the advantages to the hospital and to the science of medicine of an affiliation with a medical school. A contract was therefore entered into with Vanderbilt University, which grants its medical department the privilege of the clinic in the charity wards and guarantees to the hospital the best service for its charity patients. The pay wards are open to all physicians and their patients. By this affiliation the Vanderbilt medical laboratories are open to the hospital.

The entire plant, when completed, will represent, in building and equipment, an outlay of \$575,000. The first building will be the administration building, and will cost \$100,000; the second is planned for pay patients, and will cost \$235,000; and the third, for charity patients, will cost \$240,000. These three buildings will accommodate some 350 patients, having 200 free beds and 150 private beds. It is understood that the free service will be taken care of by endowment.

### DESCRIPTION BY MR. HANNAFORD

The original scheme for Galloway Memorial Hospital contemplated a group of three buildings, as shown, upon the block plan.

The front building is designed to accommodate the administrative officers, staff, resident physicians and interns, and to contain several large suites of rooms for private patients. The second building is intended for private patients, and also contains the operating rooms. The third building is to be used for charity patients, and its cen-

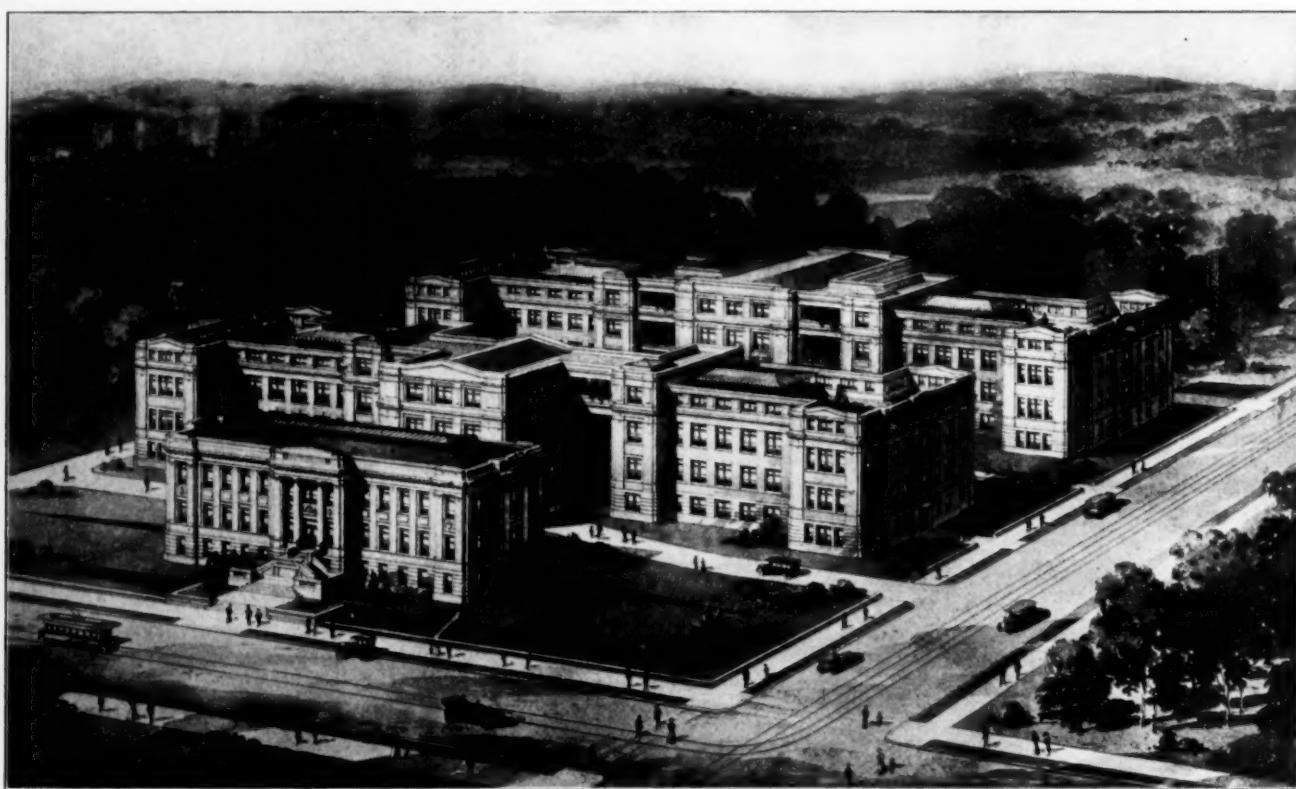


Fig. 1. Galloway Memorial Hospital. Bird's-eye view.

tral wing is to be the service building for the entire group.

As funds were not available to carry out the work for all the buildings planned, it was decided to proceed first with the erection of the second building. In doing this, it was necessary to use a part of the basement for the out-patients, and the rest of the space for kitchen, storage, and similar uses, thus making the one building a complete and self-contained hospital. This arrangement, however, is only temporary, and the building is constructed in such a way that the space thus occupied can be readily put to other uses when the three buildings are finally completed. At the present time, the building is under roof, enclosed and ready for finishing.

In plan, it consists of a central pavilion and two wings, one on the north and one on the south of the central portion. The north wing, above the basement, is given over entirely to private patients. The south wing is divided into wards for charity patients, while the central pavilion contains the offices, operating rooms, and the like.

The basement of the building is entirely out of ground, with the three stories above it. The north wing of the basement contains the general kitchen, with its cold storage rooms and pantries. Here also are the dining rooms for officers, interns, and servants, all conveniently arranged for easy service from the kitchen. A special diet and training kitchen is also arranged for near the

main kitchen. The north part of the basement is thus being temporarily used as a service department for the hospital.

In the basement of the central pavilion is located a large enclosed ambulance porch which opens into a central corridor connecting with the main staircases and elevators. Near this porch,

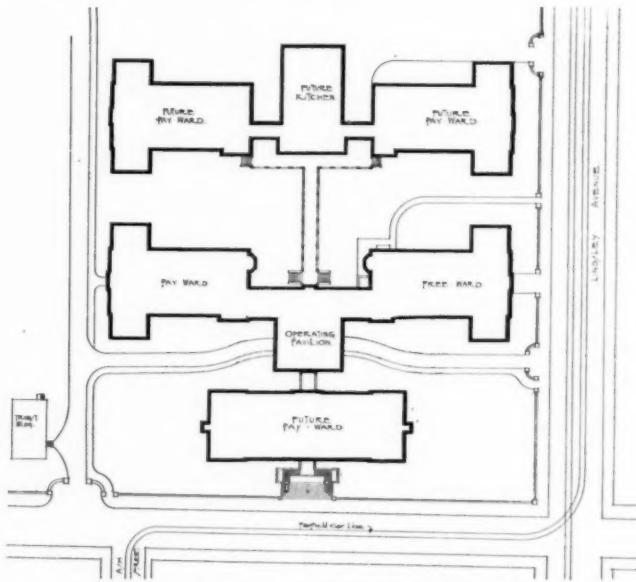


Fig. 2. Galloway Memorial Hospital. Block plan.

the morgue, autopsy room, and so forth, are located, and a portion of this space is taken up by a room containing ventilating fans, vacuum cleaners, and other machinery.

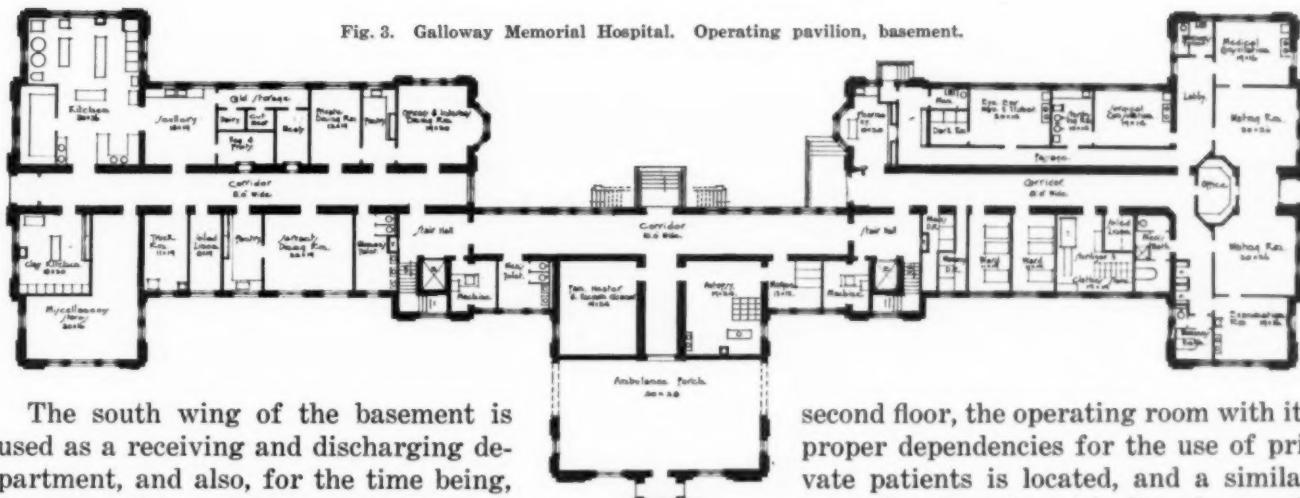


Fig. 3. Galloway Memorial Hospital. Operating pavilion, basement.

The south wing of the basement is used as a receiving and discharging department, and also, for the time being, for out-patients. Here is located an office with waiting rooms for men and women, doctors' examination rooms, special treatment room, bath rooms, the pharmacy, and small detention wards. Arrangements have also been made for the sterilizing of patients' clothing and for its storage.

The first and second floors of north wing are given over entirely to rooms for private patients. Each floor has sixteen of these rooms, or a total of thirty-two rooms, for the accommodation of patients of this class. Diet kitchens, sink rooms, linen, bath and toilet rooms are provided, and are conveniently arranged for the service of this department.

In the south wing, the first and second floors

second floor, the operating room with its proper dependencies for the use of private patients is located, and a similar operating department is directly over it on the third floor for the use of charity patients.

The third floor over the north and south wings is arranged as two open-air wards for the service of the patients of each department below. Each of these open-air wards is served by separate and independent staircases and elevators, and each is provided with separate kitchens and toilets. A study of the plan will show that the two classes of patients, while in the same building, and on the same floor levels, are absolutely separated, and each is provided with independent service.

The construction of this building is of the most modern and best type. It is thoroughly fireproof throughout. The walls are of brick with hollow brick furring on all outside walls. The external

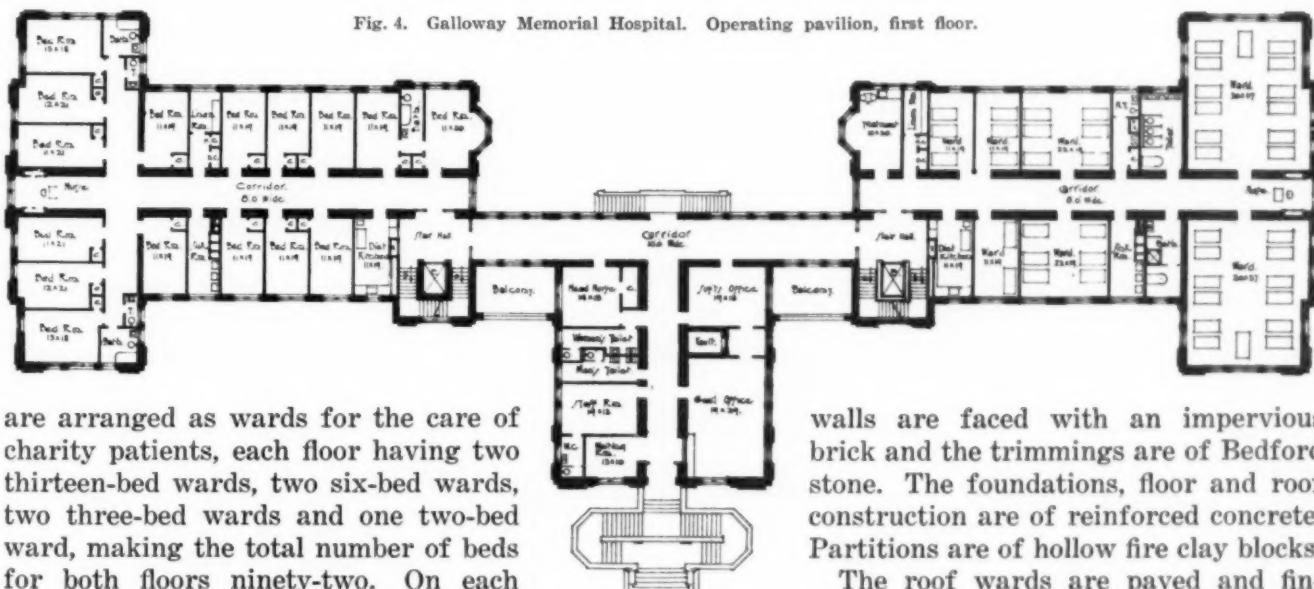


Fig. 4. Galloway Memorial Hospital. Operating pavilion, first floor.

are arranged as wards for the care of charity patients, each floor having two thirteen-bed wards, two six-bed wards, two three-bed wards and one two-bed ward, making the total number of beds for both floors ninety-two. On each floor, there is a kitchen, sink room, treatment room, linen room, and so forth, with a liberal provision of bath and toilet rooms.

In the central pavilion, the first floor is given up to the general and private offices, staff rooms, head nurse's offices, public waiting room, and, in general, the administrative department. On the

walls are faced with an impervious brick and the trimmings are of Bedford stone. The foundations, floor and roof construction are of reinforced concrete. Partitions are of hollow fire clay blocks.

The roof wards are paved and finished with a vitrified red quarry tile and all of the interior floors are finished with a vitrified white tile with bases and borders of terrazzo. The staircases are of terrazzo treads and risers carried on steel strings. Door frames are of steel. Elevators and stair halls are cut off with metal-covered fireproof doors, and the use of wood

## THE MODERN HOSPITAL

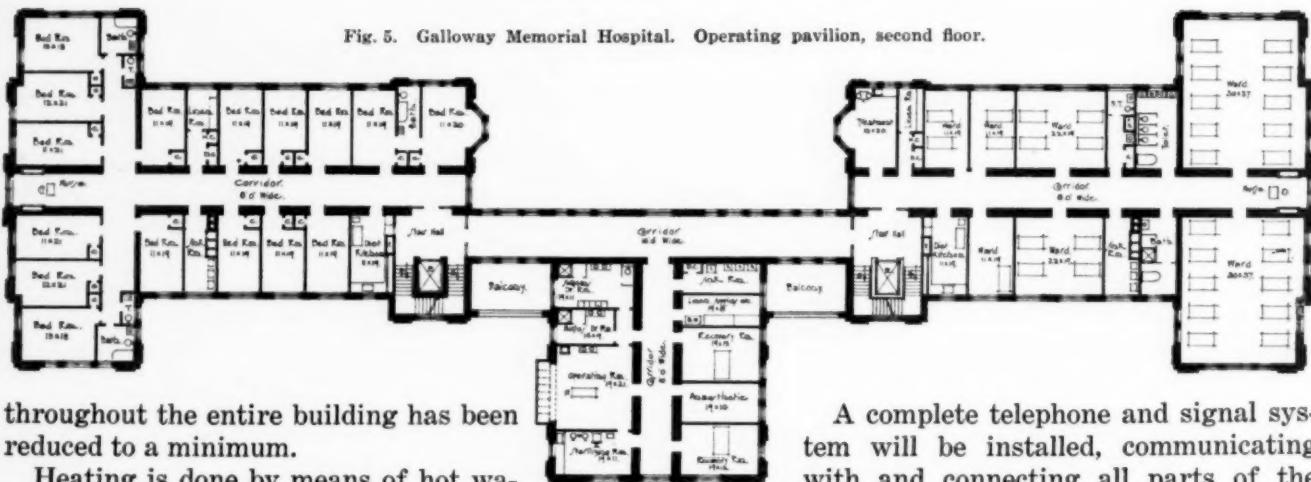


Fig. 5. Galloway Memorial Hospital. Operating pavilion, second floor.

throughout the entire building has been reduced to a minimum.

Heating is done by means of hot water, circulated through radiators located underneath the windows. The heating boilers are located in the present power house, now on the south campus, and the steam and hot water are delivered from this power house to the new hospital building through underground tunnels.

All rooms are supplied with fresh air from a motor-driven fan located in the basement, the action of which is supplemented by a vent fan placed in the attic. Six air changes an hour are provided for all wards.

The plumbing is of the best and most modern type. Supply lines throughout are of brass and all are readily accessible. All fixtures are of vitreous ware and faucets and trimmings are of Benedict nickel, solid metal.

A complete telephone and signal system will be installed, communicating with and connecting all parts of the hospital.

All of the architectural details have been worked out with the utmost care, so that there are no spaces left for the accumulation of dirt or vermin; all parts of the building are designed in such a way as to be readily accessible and cleanable.

Modern conveniences of all kinds will be installed, such as clothes chutes, incinerators, and modern appliances for the cooking and handling of food, and for the proper storage and care of all supplies.

It is the intention of the officers having the erection of the new buildings in charge to make this building as perfect in its construction and equipment as possible, and no pains have been spared to attain this end.

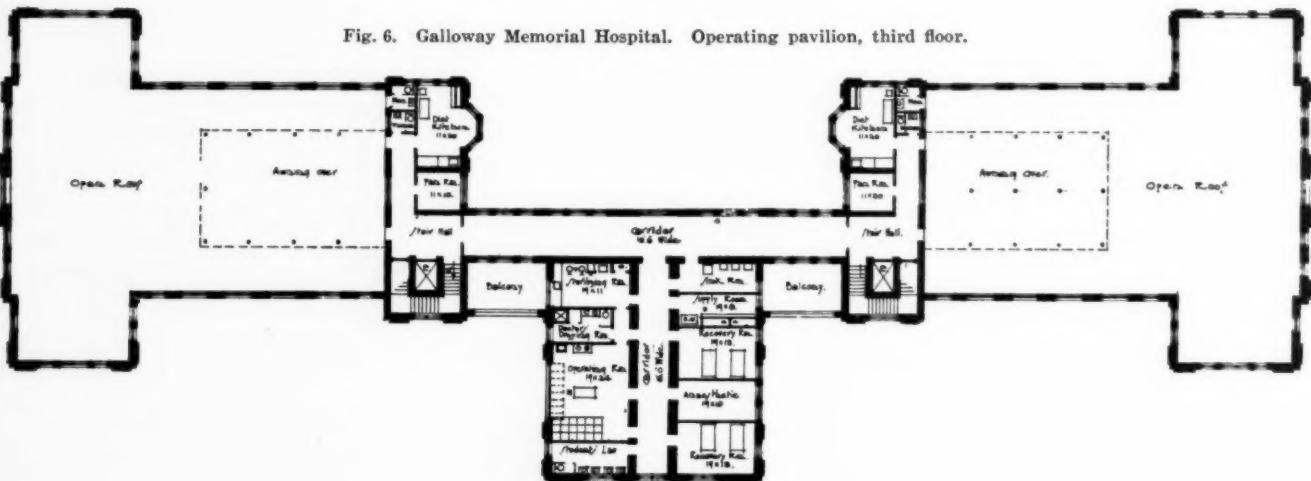


Fig. 6. Galloway Memorial Hospital. Operating pavilion, third floor.

## A Practical Examination

The State Board of Nurse Examiners in Massachusetts has been trying out a new plan of examination by which a better knowledge of the candidate's qualifications can be secured. By this plan one day of the examination is devoted to written work and another day to practical demonstration in the hospital. For the examinations held during 1914, the demonstration work has been conducted at the Massachusetts General Hospital.

## Naval Hospital Training School

A hospital training school has been opened at the naval training station at Newport, R. I. In addition to the regular work, courses will be offered in pharmacy, chemistry and microscopy. Cooking and mess management will form a part of the course in the commissary school. The students will receive further training in the naval hospitals before they begin service as male nurses on board the warships.

## DIETARY ROUTINE IN THE MASSACHUSETTS GENERAL HOSPITAL

**Cooperation With Medical Men Makes It Necessary to Measure and Weigh Foods and to Calculate Chemical Constituents—Details of Methods—Hospital Dietetics Developing Rapidly in This Country**

By RENA S. ECKMAN, DIETITIAN MASSACHUSETTS GENERAL HOSPITAL

THAT a dietary system is a necessity in the treatment of many physical conditions has long been recognized by the Massachusetts General Hospital. That an accounting system in connection with the dietary system, by means of which a physician may know not only how much food his patient is taking, but how much of each food principle the diet contains and the caloric value thereof, is not only recognized, but is actually carried on in the diet kitchen of this institution.

True, many hospitals have not yet waked up to the fact that the dietary department can be of more assistance to their organization than pleasing the palate of the few patients who can afford to pay for carefully prepared foods, or contributing to the pleasure of various favored individuals who draw from that source of supply some appetizing dishes, either for personal gratification or for entertainment.

But results have already begun to show. From one end of the country to another has arisen a wave of enthusiasm with regard to diet. Women have specialized in household problems until they can not only direct the proper preparation of food, but can instruct nurses as to its chemical composition and nutritive value, and make use of this knowledge to prepare suitable nourishment for certain deranged conditions of metabolism.

Give these trained women a chance to know the relation of a household science kitchen to a hospital kitchen; give them a properly equipped hospital kitchen, containing ranges, tables, sinks, utensils, balances adequate to the needs of accurate weighing of food; plan a system of charts to record weights and calculations; evolve a system of cooperation between ward and diet kitchen; then the physician may have information not only of the amount of food ingested, but the balance and amount of each food principle.

The necessity for this work has not only been urged by eminent medical men, but also the fact has been deplored that so little attention is given in American hospitals to alimentary problems. It seems to be the general impression that the scope and possibilities of dietetics are unknown to dietitians.

Happily, however, the outlook is far brighter than is generally supposed. Already dietary systems have been installed in various hospitals. Al-

ready there are many dietitians capable of doing just such work as has been outlined in the foregoing paragraphs. Many excellent schools of household science have given special training to prospective dietitians in hospitals. These women sent out from their training schools have worked with enthusiasm over studies in organic and physiological chemistry, invalid cookery, and diet in disease. They enter hospitals and find the only demand is for cooking and dainty serving. There is no opportunity to practice their scientific knowledge. They are sometimes told frankly that it is not balanced menus and caloric values that people want—it is something to eat. If the surroundings are fairly pleasant, and the dietitian adaptable and of an easy-going temperament, she will drop into the required routine, spend her spare time and energies in the social pleasures of entertaining, theater, opera, dress, etc. If more ambitious, she is unsatisfied with mediocre results, and pines for some work which means growth and advanced ideas.

But when hospitals and physicians demand efficient dietary systems, just as surely the time is right for great development in this department. The dietary needs of patients must be recognized by the hospitals; the dietitian's problems must be met half way by hospitals and physicians. The young dietitian should have a practice field in which to work for a time to try out her newly acquired and theoretical and practical knowledge and to gain the hospital point of view. The hospital which furnishes the opportunity does much for the cause of dietetics and much more for the individual who avails herself of the privilege of such apprenticeship.

But what has already been done in hospital dietetics? The Massachusetts General Hospital has been a pioneer worker in developing a practical system for scientific feeding.

First, the wards and the diet kitchen have a corresponding list of diets. These diets are ordered daily or weekly, as needed for certain patients, by the physician in charge. The diet kitchen prepares the food and sends it in separate boxes or baskets, marked to designate the ward destination and the name of the patient. The head nurse on the ward appoints a certain pupil nurse to prepare the trays for the patients for whom the special diets are sent. To assist in the

matter, the dietitian prepares a daily menu for the patients, specifying every article of food for all meals and feedings. With all of these precautions, there is absolutely no excuse for mistakes in feeding patients.

The food not eaten by the patient is returned to the diet kitchen, is there weighed and recorded, the corrections made, the calculations finished, and the record sent to the ward. Generally, the diet kitchen record is filed with the patient's chart; sometimes, instead, the total food nutrients and total caloric values are entered on the regular ward chart.

The diet kitchen records are made out in duplicate, and one copy remains in the diet kitchen for reference. Occasionally a third copy is sent to the chemical laboratory when special research work is being carried on in connection with a case.

Some of the work in food preparation actually done in the diet kitchen during the month of July, 1914, includes the following:

181 gastric ulcer diets.  
56 special nephritic diets.  
104 salt free nephritic diets.  
158 weighed diabetic diets with limited protein and limited carbohydrate.  
17 weighed obesity diets.  
22 constipation diets.  
17 carbohydrate diets (limited protein).  
24 low protein and carbohydrate and high fat diets.  
21 rachitic diets.  
5 nitrogenous diets.  
854 special orders of miscellaneous food.  
69 fat-free diets.  
42 salt-free diets (not nephritic).  
8 diets for special research.  
38 colitis.  
751 full extra meal diets.  
1,161 orders of special ice cream.  
247 orders of special cream modifications.  
1,537 orders of jellies.  
1,616 orders of custard.

Two sample forms are given below. The first one contains the order on the diet kitchen for the desired food preparation. The diet is prescribed by the visiting physician, and the house officer directs the head nurse to write the order and send to the diet kitchen.

The second form is that used in reporting weighed diets.

A few details of ways and means may be cited, showing attempts to arrive at accuracy. When a weighed diet is ordered, tests are made from time to time to ascertain the amount of fat lost in cooking bacon or other fat meat.

The hospital purchases cream for use in all the dietary departments which analyzes from 57 to 59 percent fat. This cream is then diluted with milk to furnish thin, medium, or heavy cream for

dining room use. For the weighed diets it is only necessary to mix cream and fat-free milk in proper proportions. The amount of fat in the resulting cream is readily calculated, as is also the amount of carbohydrate and protein contained therein. For diabetic patients the cream is used undiluted or mixed with water.

The chemical laboratory of the hospital cooperates with the diet kitchen, and runs a protein, fat, or carbohydrate determination when the necessity arises. More than one outside laboratory has willingly furnished information on request of the dietitian. The nutrition laboratory of the United States Department of Agriculture has helped in the solution of many problems when their records already on file do not happen to give the desired analyses.

REQUISITION.		Ward, 31.
Kitchen.	Articles.	Amounts.
	Diabetic diet for	
	Antoine Martinello.	Daily.
	Protein—70 grams.	
	Carbohydrate—50 grams.	
	Calories—3,000.	
	Diagnosis—Diabetes.	
		Mary Smith, Head Nurse.
Approved. J. B. Howland, Resident Physician.		
Date, July 12, 1914.		

Fig. 1. Diet requisition. Size, 4x7 inches.

Just a few words about the organization of work in the diet kitchen. Some hospitals employ only graduate nurses. In this case it often happens that dietetics has not been a requirement of their training, and hence there is a great necessity in these hospitals for a trained dietitian who will work out her own dietary regime.

Most hospitals, however, depend on the diet kitchen to furnish a practice field for the pupil nurses to train in dietetics. When the latter is the case, the nurses should first be given a series of practical lessons in cooking and a corresponding set of lectures on the theory of dietetics. Then, when they come to the diet kitchen, after the necessary routine work is familiar to them, they are ready to fill orders intelligently.

The number of nurses at work in the diet kitchen should depend on the number of patients and the kind of diet work required. The work may be divided into a beginning semester, with simple duties, acquainting the pupil nurse with

MASSACHUSETTS GENERAL HOSPITAL. Special Diet Chart.							
Name, Antoine Martinello. In charge of Dr. Kilgour.	Diagnosis, Diabetes.				Ward, 31. Date, July 12, 1914.		
Food materials.	Amount sent.	Amount returned.	Amount consumed.	Protein.	Fat.	Carbohydrate.	Calories.
Butter, grams . . . . .	60	10	50	.50	42.50	.....	397
Cream, 30 percent . . . . .	viij	0	viij	3.92	128.00	.....	1206
Cream, 60 percent, ounces . . . . .							
Milk, f. f. . . . .							
Milk, whole . . . . .	ij	0	ij	13.20	12.00	.....	166
Eggs, whole . . . . .							
Eggs, whites . . . . .							
Cheese, American . . . . .							
Cheese, cream, grams . . . . .	50	25	25	4.67	6.85	.37	84
Steak, grams . . . . .	100	.....	100	18.90	18.50	.....	249
Chop, grams . . . . .	100	.....	100	21.70	29.90	.....	367
Chicken . . . . .							
Bacon . . . . .							
Sardines . . . . .							
Salmon . . . . .							
Lettuce, grams . . . . .	25	0	25	.30	.08	.73	5
Potato, grams . . . . .	100	0	100	2.50	.10	20.90	97
Oranges, grams . . . . .	100	0	100	.80	.20	11.60	53
Apple . . . . .							
Bread, white, grams . . . . .	100	0	20	1.82	.32	10.66	54
Bread, graham . . . . .							
Arrowroot . . . . .							
Oatmeal . . . . .							
Hominy . . . . .							
Rice . . . . .							
Sugar . . . . .							
Ice cream . . . . .							
Custard . . . . .							
Carrots, grams . . . . .	125	25	100	.53	.17	3.39	18
Cabbage, grams . . . . .	50	0	50	.30	.05	.20	3
Tomato, grams . . . . .	100	0	100	.90	.40	3.90	23
Olive oil, grams . . . . .	39	0	39	.....	39.00	.....	363
Totals . . . . .				70.04	278.07	51.75	3087

(Signed) Rebecca Reid, Assistant Dietitian.

Fig. 2. Special diet chart. Size, 8x11½ inches.

routine, utensils, and orders. Then a junior and a senior division of the work may follow, the advanced work and responsibility being placed on the pupil nurse in the latter part of her time in the diet kitchen. Experience teaches that the diet kitchen is expensive, because special diet work demands food materials in excellent condition, of high grade, and the articles required are often out of season. Economy in the preparation of food is the most difficult problem the dietitian attempts to teach. An amateur realizes with difficulty her extravagance and often with unwillingness, and frequently deludes herself into thinking that the hospital benefits because of her labors when, in fact, just the reverse is true.

A good servant in the diet kitchen is a necessity. Much of the menial part of the work should be spared the nurses, although they obtain valuable discipline in doing some cleaning up after themselves. Many a careless spilling of food on floor or table will be saved when the person who commits the fault realizes that she must clean up and repair the damage.

While the calculations of weighed diets are

simple mechanical operations, most nurses find the work a great hardship. It devolves on the dietitian to be responsible for the accuracy of the reports. The closest kind of attention is required to accomplish this result.

When all of the foregoing has been done, the plan is not complete; neither will the results be satisfactory or valuable unless the dietitian or her assistant can see the patients' trays, see the patients occasionally, receive instructions directly from the physician, and know all the avenues by which an order may go astray or be frustrated.

At least two hospitals in Boston other than the Massachusetts General Hospital have been working along similar lines in their dietary system as outlined in the foregoing paragraphs.

In Philadelphia some such work has been started, and has been followed up through the outpatient department of a hospital into the patients' homes. At the Battle Creek Sanitarium wonderful progress has been made, and the dietary department has unquestionably the finest system known to the writer.

Let us hope that the good work will go on.

**FIRST TAXPAYERS' COUNTY HOSPITAL, WASHINGTON, IOWA****Activities of the Washington County Hospital Since Its Creation in 1912—Successful Result of the Much-Discussed Iowa Law—Woman's Auxiliary Board Largely Responsible for Achievements**

BY DR. C. A. BOICE, MEMBER OF MEDICAL STAFF, AND MISS ELIZABETH FINLEY, R. N., SUPERINTENDENT

**INTRODUCTION BY DR. BOICE**

THE Washington County Hospital had its beginning in the spring of 1907, when the physicians of Washington equipped an operating room in a private house and organized the Washington City Hospital.

Here much work was done for five years, and many people were taught the needs and value of a hospital. The imperfections and limitations of this hospital emphasized the need of a more complete institution.

The physicians were shown how essential was cooperation in the successful conduct of such an institution, and they soon realized how much the community needed first-class hospital service and how much more easily and efficiently the sick could be cared for with trained nurse supervision and sanitary environment. The plane of local medical ability was raised, because of the frequent associations and consultations, which stimulated every physician to do better work.

When the Munger Bill passed the Iowa Legislature we were ready for it, and took immediate advantage of its provisions.

The Munger Bill (Senate File No. 166, Enactment of the 33d General Assembly) provides that by a vote of the people the county may levy a tax for the building, equipment and maintenance of a public hospital, to be governed by a body of seven trustees, three of whom may be women, but none of whom may be practicing physicians.

This last provision, which was deemed necessary to prevent any physician obtaining control, unfortunately deprives the board of the direct advice and assistance of the very persons who are most competent to give it. But inasmuch as it is the universal practice to place the government of hospitals in the hands of non-medical people, Iowa county hospitals are no worse off than others. Our board, moreover, has been very faithful in the work and has given no cause for criticism.

The campaign for the hospital tax at the general election was under the supervision of the Washington County Medical Society, and was conducted by the secretary with the assistance of an attorney, who was much interested in the object and who later became president of the board of trustees. The County Medical Society conducted the campaign because it was the only county-wide organization in existence and also because it was

and is the duty and pleasure of the physicians to lead in all hospital progress.

As a preliminary, the physicians were asked to sign a petition calling attention to the inestimable value of the hospital in the treatment and alleviation of disease. The law guarantees to all physicians in the county equal rights, and any patient may select his own physician. Every physician in the county signed the petition.

Eight counties in Iowa asked for a vote at this time (November 8, 1910)—and only Washington County was successful in its efforts to have the tax levied. The plan of campaign of the Washington County Medical Society differed from all the others, and as it was the only one successful, we have some reason to believe it the best. It was, briefly, as follows:

Every physician signed the preliminary petition, all the signers being secured in one day. Immediately committees secured, quietly, the signatures of nearly three hundred freeholders (the law required two hundred) and filed these with the board of supervisors ninety days before the election, as the law specified. The board accepted the petition and published the required notice in the official newspapers.

The topic was then immediately dropped, so that no controversy or discussion might arise, and organized effort be directed against the project; for we realized that the efforts of a few workers against a tax-levying proposition far outweigh those of dozens in favor of it. This is exactly what occurred in the other counties in which campaigns were waged; for in these the discussion and argument was carried on for the whole ninety days from the filing of the petition until the election, and resulted in the defeat of the cause.

The petition carried with it a tax levy of one mill per year for four years, in all about thirty-one thousand dollars. The Munger Bill also provided that five percent of the general tax could be set aside for maintenance; in our county this would amount to about eighteen hundred dollars.

During the interval between the filing of the petition and the election, the society's secretary and the attorney were busy formulating plans for a whirlwind campaign in the final week. Each of the nine newspapers in the county on the day before the election carried a strong editorial in favor of the proposition and printed a reproduc-

tion of the ballot and of the physicians' petition. There was not time for opponents to give publicity to any counter arguments.

During the week before election circulars, sample ballots, and petitions to the number of forty-five thousand were distributed, reaching every house in the county. All the school teachers circulated these; every storekeeper in the county placed them in every package of goods he sent out; ministers called attention from the pulpit to the benefits of the hospital; moving picture houses threw the appeal on the screen several times each evening. Every known possible agency was used to make the people think of nothing else but the

As soon as possible after the election the board of supervisors nominated the first board of trustees. Immediately the trustees organized and decided that the building should be fireproof and that the entire appropriation should be used in construction. As soon as this was definitely decided it was an easy matter to secure the site, the furnishings and the equipment.

Mr. W. P. Wells, at a cost of \$3,700.00, donated the William Perry Wells Park for a site. It is a tract of eleven acres, beautifully located, well drained, convenient to paved streets, large enough to make a beautiful park and to provide for future buildings, such as nurses' homes, tuberculosis

buildings and contagious pavilions, as the growing needs of the community may require. The hospital, being located in the center of a park of this size, is forever safe from the possibility of buildings or factories being built in the immediate vicinity.

A fireproof structure forty by eighty feet, with three stories and a high basement, was rapidly erected. Various churches, lodges,

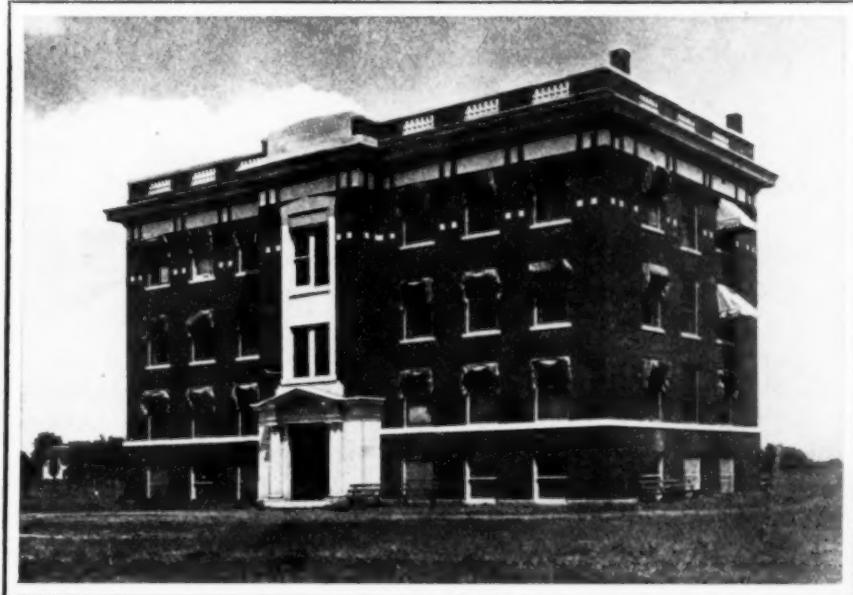


Fig. 1. Washington County Hospital.

hospital for Washington County for a week preceding election; and on election day relays of workers were kept at every polling place to pass out sample ballots. As a result of this activity eighteen of the twenty-three precincts gave a majority, in all a total majority of seven hundred and eighty-four. The pre-election estimate had been five hundred. So on November 8, 1910, the first county hospital in Iowa—therefore the first of its kind in the world—was ordered erected at Washington, Iowa.

Washington County is one of the earliest settled counties in Iowa, and a rich farming and stock feeding community. Its population is twenty thousand, its area five hundred and seventy-five square miles. Its citizens are both progressive and aggressive. There are twenty physicians in the nine towns outside the county seat. Washington City is near the center of the county, has a population of five thousand, has fourteen reputable physicians, and, for progressiveness and business standing, is one of the best towns in Iowa.

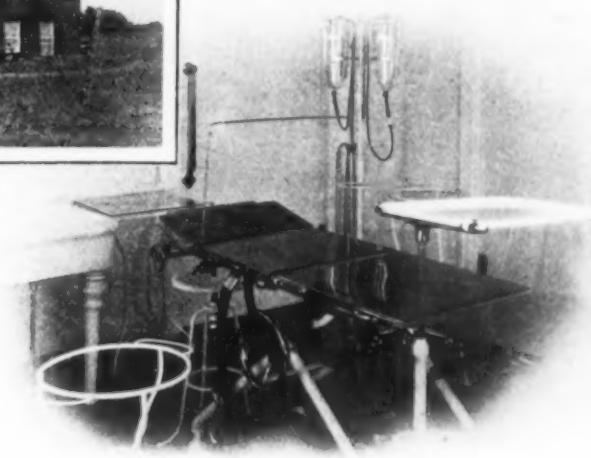


Fig. 2. Washington County Hospital. Operating room.

societies and private individuals contributed the furnishings and equipment, which in all cost about \$5,500.00.

Figure 1 shows the entrance. The hospital is so located in the park that it is at least three hundred feet from any possible building which may be erected in the neighborhood. This is sufficient isolation from street dust and noise.

Figure 2 shows the main operating room and equipment. The equipment of the operating suite is entirely commensurate with the needs of a first-class hospital.

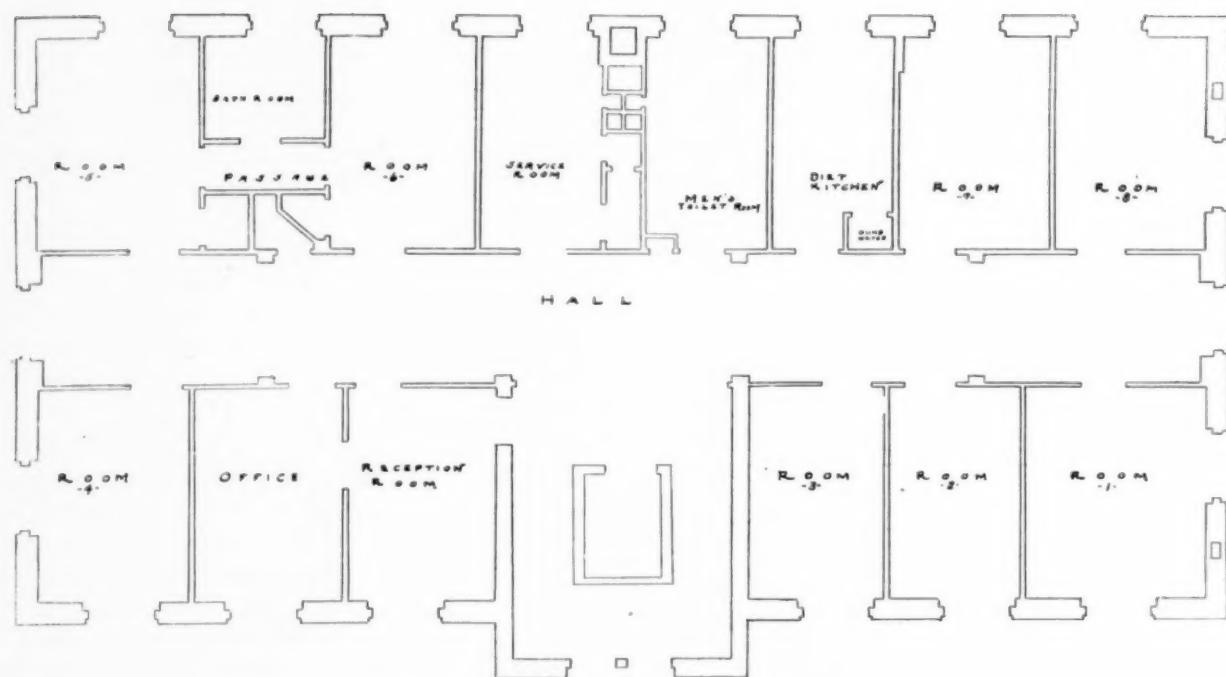


Fig. 3. Washington County Hospital. First floor plan.

The basement contains large and light kitchens and dining rooms, engine rooms, and several store rooms.

Figure 3 shows the first floor plan; it provides for the office, reception room, classrooms, the superintendent's private rooms, and several private rooms for patients. The floors throughout are of terrazzo, with rounded corners and edges, which make them easy to keep clean. The second floor plan is similar to the first floor, differing only in that the private rooms take the place of the office and classrooms.

Figure 4 shows the third floor plan, where is located the operating suite—large and light operating rooms with north windows, a sterilizing room, a dressing room and a bath. Across the closed hall is the maternity or delivery room and two private recovery rooms. The south half of the third floor is given up to the maternity ward and private rooms. The hospital contains nineteen private rooms and two wards of five beds each.

The preliminary arrangements, as might be expected in the case of a pioneer institution of this character, entailed an enormous amount of work, all of which was cheerfully done by the trustees. The law allowed the supervisors to set aside five percent of the general tax fund for hospital maintenance. It was at once found that this amount (\$1,800.00) would be entirely insufficient, at least until the hospital was well established and the people fully appreciative of its advantages. The board presented, therefore, to the Iowa Legislature an amendment allowing the

board to make an assessment, as the needs of the hospital became evident, not to exceed one mill per year. The law was so amended. One mill tax will raise about eight thousand dollars.

On July 15, 1912, the completed and equipped hospital was opened for the use of the people. The pioneer work done in the previous five years in the Washington City Hospital had now borne fruit; the experimental and educational days were over. The people were educated immediately to make use of the hospital; the nurses were trained; the physicians cooperated, being able and willing to assume the added responsibility; and the county began to reap the benefits in better health and better ways of living. The hospital has therefore been successful from the start.

#### DESCRIPTION BY MISS FINLEY

The Washington County Hospital has the proud honor of being not only the first hospital in Iowa erected by a direct vote of the taxpayers, but also the first such institution in the United States, as the Iowa Law, or the Munger Bill, is the pioneer legislation of this character.

Dedicated on July 15, 1912, in the presence of more than three thousand interested people, it had a most auspicious beginning. The interest has been crystallized into an enthusiastic desire to up-build the hospital and to widen its sphere of influence, and to educate the community to the needs and advantages of a well-equipped and well-conducted institution.

Out of the interested audience at this time has grown an active and aggressive Woman's Auxili-

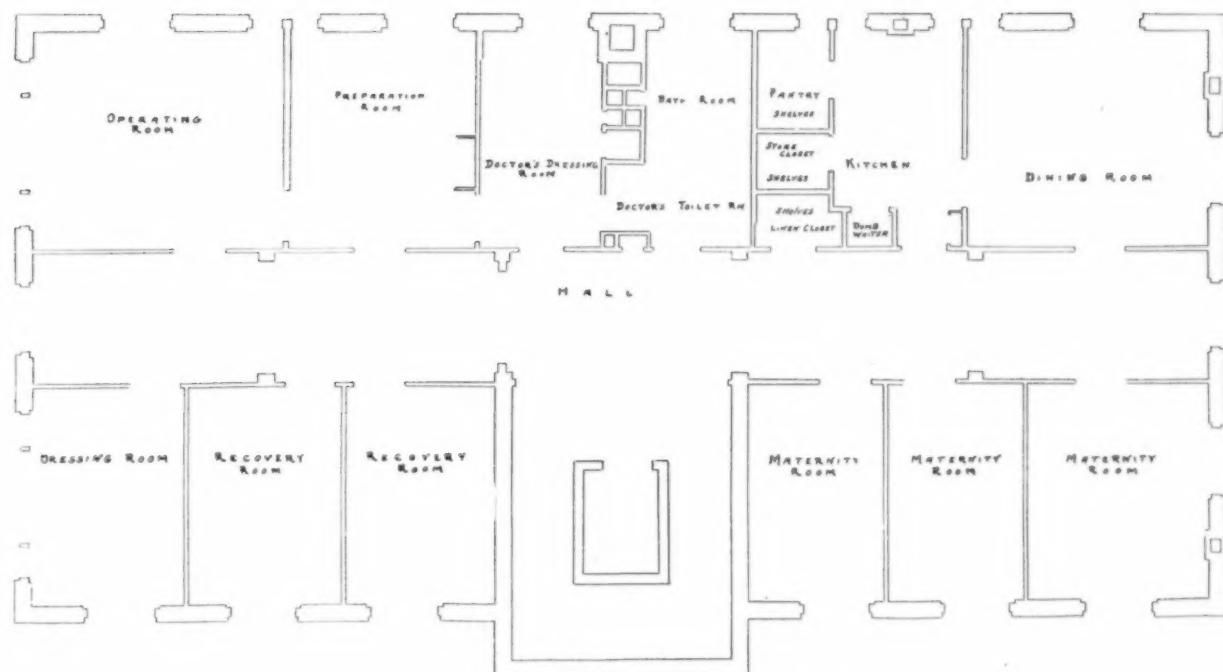


Fig. 4. Washington County Hospital. Third floor plan.

ary. This organization has done much to start the institution on its way to success, caring for the many little things, which are so big in the aggregate; canning fruit; furnishing linen and utensils; adding to the equipment; carrying on, through its various committees, public education for the hospital and public health propaganda for the good of the community; and striving to give to the people an insight into the place of a hospital in the community. A properly organized and working Woman's Auxiliary is the right arm of the small hospital.

The eleven-acre park in which it is located gives ample opportunity for landscape beautification, and allows room for a large garden and a place in which to keep chickens and cows, so that the institution may have its own sources of supply. And the hospital can never be crowded closely by other buildings, as it stands at least three hundred feet from any private grounds.

The building itself was planned with the thought of utmost utility of space allotted; in size forty by eighty feet, of three stories and a high basement. There is an electric elevator in the building; an inverted lighting system; colored lights for call bells; telephone connections in every room; indestructible floors, large doors and windows. These features have been fully justified in the two and one-half years' service. The main kitchen and dining rooms are in the basement, with auxiliary diet and service rooms on each floor. The training school has its own well-equipped diet kitchen in the basement, presided over by a graduate instructor in domestic science. A laboratory suitable for the needs of the insti-

tution, and two powerful portable x-ray machines are available whenever and wherever needed.

The hospital charges range from ten dollars to twenty dollars per week for general care and nursing, with a five-dollar fee for maternity and operating rooms.

Two days after the hospital opening, the first patient was received. During the first year, one hundred and thirty-one persons were given hospital care, with an average stay of thirteen and one-half days; the second year, two hundred fifty-six were received, an increase of almost one hundred percent. The average stay this year was eight days, being reduced by a large number of tonsil and adenoid cases whose visits were brief.

During the first year, while everything was new, when few of the physicians and patrons were hospital-trained, the total maintenance cost was \$8,771.50. In the second year, when system was being established and cooperation being learned, the total maintenance was \$8,746.46, but the number of patients was double that of the first year.

As the system grows more perfect, as cooperation between nurses, physicians and patrons becomes increasingly effective, we expect to care for more and more patients at about the same total expense without in any manner interfering with the service rendered or the results obtained.

A training school was established on April 6, 1913, which offers a three-year course in practical and scientific nursing. The hours of instruction given exceed those of most hospitals and are in excess of the rules of the state board. Five young ladies are now enrolled in the school. Instruction and teaching is by graduate nurses and physi-

cians, and as far as possible the instruction is didactic. The place of the training school in the hospital development of a community is too well known and understood to need elaboration here.

The operating room—equipment, technic and service—is the center of the hospital. The greater part of the work here is surgical and the reputation of the institution depends on the character of the work done in this department. The operating room proper is large, light, airy, clean, and fully equipped. The operating suite comprises the north half of the third floor and is composed of bathrooms, storage and dressing rooms, sterilizing, major and minor operating rooms, anesthetizing room, maternity room, and two large recovery rooms. The entire suite is separated from the rest of the floor by heavy folding doors. Ether is the anesthetic of choice, the drop method being employed exclusively. As far as possible a specially trained observer gives the anesthetics. Gastric lavage is very frequently instituted to prevent post-anesthetic vomiting and to prevent acute gastric dilatation.



Fig. 5. Packing the narrow strip into the bag. The end of the strip is caught with a forceps and carried to the bottom of the bag, where it is fastened securely by sewing through and through, and then successive portions are rapidly packed in with the forceps. When packed in thus, the gauze strip may be drawn out a little at a time as needed.

The continuous sponge—first introduced by Dr. H. S. Crossen of St. Louis\*—is used, and no loose or separate sponges are allowed in the operating room while any of the body cavities are open. This sponge was used for three years in the City Hospital, and has now been used for two and one-half years in the County Hospital. This proce-

dure marks such a distinct advance in operating room technic that we cannot too strongly urge its general adoption. The technic of handling the continuous sponge is easily acquired, its use permits just as rapid work, it cuts out the human equation, eliminates the possibility of error in sponge count, lessens by one or two the nurses

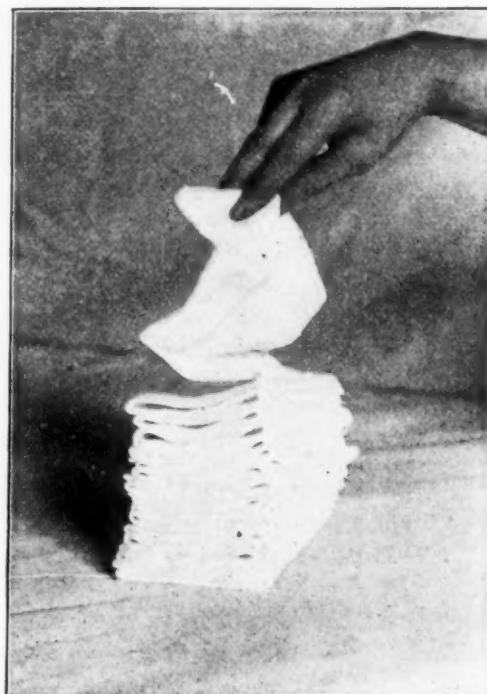


Fig. 6. Method of folding.

needed in the room, renders absolutely impossible the leaving of a sponge in the wound, and is an infallible preventive of malpractice litigation. The sponge for "sponging" is made from a strip of gauze ten yards long and eighteen inches wide, folded into a strip three inches wide. The sponge for "packs" is five yards long and thirty-six inches wide, folded into a strip six inches wide. These long strips are sewed into the bottom of proper sized bags and the bags pinned to the towels and sheets about the incision area. Under no circumstances are the strips cut. There being no loose pieces of gauze, none can be left in the wound.

In the first two and one-half years of the hospital's existence, five hundred and twenty-six patients have been cared for. The surgical work has included most of the major operations—arthroplastic, bone grafting, decompression, cesarean section, etc.—as well as minor work; and the results have been surprisingly good.

The small country hospital has its definite place; it has come to stay. It will teach the physician and nurse system and cooperation; it will engender an enthusiasm for better work and for enlarged opportunities; it will teach the community to recognize and demand better work.

(\*American Journal of Obstetrics, Vol. LIX, pp. 58-76 and 250-284.)

FIRELESS COOKERS AS AN ADJUNCT IN THE HOSPITAL KITCHEN<sup>1</sup>Heat Retention and Heat Radiation the Principles Involved—Cooking by Retained Heat  
—Advantages of Low-Temperature Cooking, From Chemical Standpoint

BY FRANCES A. SEELY, CHICAGO

**F**IRELESS cookery is the art of cooking by stored heat, as distinguished from continuous contact with heat from flame. Two methods are followed: cooking by radiated heat and cooking by retained heat; both have been practiced from time immemorial.

One application of the art common to all primitive peoples is the use of hot stones in preparing certain much-prized foods. South Sea Islanders cook fish by first digging a shallow pit and building a fire over stones laid at the bottom. After the fire is out, the fish, wrapped in leaves, are placed upon the hot stones and covered with earth, which confines the heat and produces a delicacy highly praised by travelers of all races. Gypsies cook the hedgehog in a similar manner. An illustration nearer home is the clambake of New England. The same principle was employed by the colonial dame in executing her culinary triumphs. The fire in her ample brick oven died down and the ashes were raked out; the foods were inserted and cooked with the heat radiated by the hot brickwork. The American Indian squaw at some time in the remote past was confronted with the problem of cooking in a vessel which would not resist fire. She solved it by putting water in the vessel, and dropping hot stones into the water until it boiled sufficiently to cook the food. Her clever invention was adopted generally; the method is described by the Jesuit missionaries in the story of their wanderings through the American wilderness. These instances illustrate cooking by radiated heat; in other words, a method in which a heat-absorbing material is heated far above boiling point and used to cook foods by radiation.

Cooking by retained heat is illustrated by the Chinese method of placing a pot of tea in a padded receptacle, in which it keeps hot for many hours; and also by the practice of the Norwegian peasant of placing a kettle of hot food between feather-beds or in a pocket of hay enclosed in a barrel or box. To this latter device the origin of the modern fireless cookstove may be traced. The addition of cloth linings to keep the hay in place and to form a covering pillow are self-suggested improvements. A wooden box thus constructed

and called "The Norwegian Automatic Kitchen" was shown at the Paris Exposition in 1867, but did not attract the attention of housewives. For many years the Norwegian cooking box served chiefly to add a few paragraphs to works on domestic science; but in 1905 great effort was made in Germany to arouse interest in the economy and improvement to be gained by using the fireless method. A United States consul reported the results of his observations of this movement, and the department of agriculture spread the account broadcast. The element of mystery in cooking without fire stimulated one housewife after another to make a "hay box" and "try it for herself." Their stories of the wondrous results, related in the "Home Departments" of their favorite newspapers, created great interest throughout the country, and led to a large output of manufactured devices to supplant the home-made boxes. In the beginning only the boiling processes were attempted, but by degrees radiators of soapstone or iron were introduced, so that baking and roasting also could be performed.

Practical limitations make baking and roasting with radiators of little interest to the modern hospital. Quantities must be small and with few exceptions there is no advantage in quality offering inducement to change from the usual ways of baking and roasting in large quantities. But cooking by retained heat has not these drawbacks. It is entirely practical to handle quantities sufficient for the largest of institutions, and the quality of product of many foods cannot be equaled by any other method of cooking.

## COOKING BY RETAINED HEAT—THEORY

Cooking by retained heat is accomplished by boiling a kettle of food several minutes over flame and then placing it in a closed container, insulated so that only a small portion of the heat shall be lost each hour. Cooking is completed solely with the heat thus stored and retained. The temperature never exceeds the boiling point, which limits the method to the boiling processes.

Cooking proceeds to completion because the process can continue under temperatures considerably below the boiling point. Albumen begins to coagulate at 134° Fahrenheit and is completely cooked at 160°. Cells containing starches break up at 140°. Cooking, therefore, does not cease the instant flame is cut off, but continues until the

<sup>1</sup>This is the first of a series of articles on fireless cooking in the hospital. The editors believe there are certain economies and advantages to be had with fireless cooking, and the subject is not yet well understood by hospital people. Mrs. Seely, one of the pioneers in the field with fireless cooking devices, was, for that reason, asked to contribute a series of articles on the subject.

temperature drops to these comparatively low points. This takes place rapidly when the kettle cools in the air of the room, but when the period is lengthened by enclosure in an insulated receptacle, several hours of effective cooking are added without further application of heat from flame. Thus it becomes possible to shorten the usual boiling period on the stove to the time required for heating thoroughly the inner particles of the masses of food. The retention of this heat for a sufficient period will do the cooking. The early cessation of boiling is beneficial in several ways: hardening of albumen by long exposure to excessive temperature is avoided, dissipation of flavors in the ebullition of steam is curtailed, and characteristic aromas are more completely preserved.

Fireless cookery requires, first, a standard of insulation which will sustain a long cooking period, and, without reheating or reboiling, deliver perfectly cooked food hot and ready to serve; and second, the exact proportions of materials, and proper duration of time on stove and in cooker, which will produce the best results. The best results are attained when the cooked food presents perfection of shape and tenderness of structure with a minimum of shrinkage; or (if a dried fruit or cereal), with a maximum of hydration and expansion; and, withal, the combination of distinctive flavors most pleasing to the discriminating taste.

This standard of heat retention in the cooker and of quality in the product was established by the writer soon after a few trials had shown the home-made "hay box" to be far more retentive of stale cooking odors than of heat. The effort to make something better resulted in the first all-metal sanitary fireless cooker. The standard of heat retention was soon attained, but the establishing of the best proportions of materials and the proper duration of time on stove and in cooker required much experimentation, prolonged over several years.<sup>1</sup>

Cooking is a chemical process, and under the conditions of fireless cookery it assumes the accuracy and certainty of the operations in a chemical laboratory. A certain effect is produced with exactness by the period of boiling on the stove and certain other effects by the long after period in the fireless cooker. During the time on the stove the temperature is held evenly at the boiling point. During the time in the cooker it falls rapidly to a few degrees below the boiling point and then slowly, without fluctuation or wavering,

it lowers in diminishing progression to the minimum cooking limits. Given the proper proportion in the materials, the effects of this treatment upon foods is marvelous, unique and highly desirable, and are obtained with unfailing uniformity and regularity. In many foods the experimentation demonstrated a marked falling off in quality of product when a certain duration of boiling was varied, and particularly when it was exceeded. For this reason the fireless cooker is preferable to the steam kettle. With the cooker the boiling period can be limited with exactness and a long after period secured of slowly diminishing, simmering heat, all of which is impossible with the steam kettle. Also, in all-night cooking, the cutting off of steam from the kettle interjects a period of complete cooling down followed by one of reboiling, which is destructive of the finer qualities sought in good cookery.

The effects produced by fireless cookery upon the commonly used foods will be discussed in detail in succeeding articles and the improvements and economies which have been realized again and again by dietitians in well-known institutions will be pointed out.

#### DELL RAPIDS, S. D., OPENS NEW HOSPITAL

##### Small, Modern Building Erected at Low Cost

The Dell Rapids Hospital, which has just been opened at Dell Rapids, S. D., was erected by a locally organized corporation of two hundred and fifty shareholders.

The building is an attractive two-story and basement structure, 78x38. The basement story is constructed of Dell Rapids granite; the first and second stories, of pressed brick and tile. Asbestos shingles were used.

In the basement, besides the furnace, is a suite of four rooms for nurses' rest or reading rooms, with sleeping apartments; also a laundry, laboratory, pantry, kitchen, serving room, nurses' dining room, and cupboards and closets. Pantry and kitchen are finished in white enamel.

On the second floor is a large reception room, opening from which are physicians' private rooms, and next to these the x-ray room. The rest of this floor, with the exception of lavatories, etc., is used for patients' rooms.

The operating room is on the second floor, in the northwest corner. It has a large skylight, electric lights, tile floor, and marble baseboards. The walls are finished in Keene cement. Connected with it is the sterilizing room, and the dressing room is just across the corridor. On this floor are two wards and several patients' rooms.

The corridor floors are covered with battleship linoleum, and the stairs with rubber matting. Each floor is equipped with 75 feet of fire hose, and the water system is connected directly with the city mains. There are also vacuum cleaner connections on each floor. A silent signal system has been installed.

The cost of the site and the building, without equipment, was \$22,000. The site cost about \$5,000.

The hospital was built largely as a testimonial to Dr. M. M. Grove, who has built up a large surgical practice in the community and won the greatest confidence of the people. Dr. Grove will have charge of the hospital.

<sup>1</sup>The results of these experiments are embodied in recipes and directions which are inflexible. The "practical" cook who adds a little of this and a little of that until it "looks right" must change methods and follow directions precisely in order to succeed with fireless cookery. Nothing can be added or boiled down in the cooker; the character of the product is foreordained and unalterable when it leaves the range.



Hurley Hospital. Front view.

### HURLEY HOSPITAL—A NEW MUNICIPAL INSTITUTION AT FLINT, MICH.

**Founded by Wealthy Citizens and Presented to the City, Which Provides Liberally for Its Conduct—Local Medical Society Acts in Advisory Capacity—But There Is No Medical Staff**

BY ANNA M. SCHILL, R. N., SUPERINTENDENT

FLINT'S municipal hospital, one of the best equipped and most modern general hospitals in the state of Michigan, was founded in 1905 by James J. Hurley and bears his name.

Located on nearly two blocks of high ground, just within the western limits of the city, its situation commands a view of the surrounding country and constitutes an ideal spot for a hospital.

It is owned and operated by the city of Flint, is supported by taxation, is open to private as well as free patients and is managed through a board of five men, all of whom are laymen, appointed by the mayor and common council. There are no doctors or women on the governing board. The Genesee County Medical Society, however, have three representatives whom they appoint to meet with the board of hospital managers to make suggestions whenever they deem it necessary. These men are welcomed to all board meetings and are notified when matters which are especially interesting to the medical profession are to be discussed.

At the time of organization and building there was a woman's auxiliary board which by subscription and donations provided funds with which to furnish the private rooms. This board also provided linen when the hospital was opened and replenished it as needed until two years ago, when they disbanded.

A yearly appropriation from the city enables

Hurley Hospital to meet expenses without the public subscription which is generally so essential to the small hospital.

There is no medical staff. All physicians of good standing in the community are allowed to send their patients into the hospital and to treat them there, having equal privileges in the use of the operating rooms and other equipment.

The official staff consists of the superintendent of the hospital and training school, assistant superintendent, surgical supervisor and night supervisor, all graduate nurses, and a graduate dietitian who also acts as housekeeper.

The buildings are of colonial design, built on the pavilion plan, exposed on all sides to the sunlight and fresh air. The architectural effect is one of simplicity. A two-story administration building with three pavilions, those on the north and south connecting with the main building by bright, sunny corridors, constitutes the original hospital. A basement, extending under the main building, west pavilion and corridors, furnishes space for dining rooms, kitchens, store rooms, laundry and boiler rooms. The first floor of the administration building has a large, well-lighted vestibule and lobby in the center. Opening off from this lobby are the reception room, superintendent's, bookkeeper's and secretary's offices, elevator and superintendent's apartments.

The north pavilion contains eight private rooms,

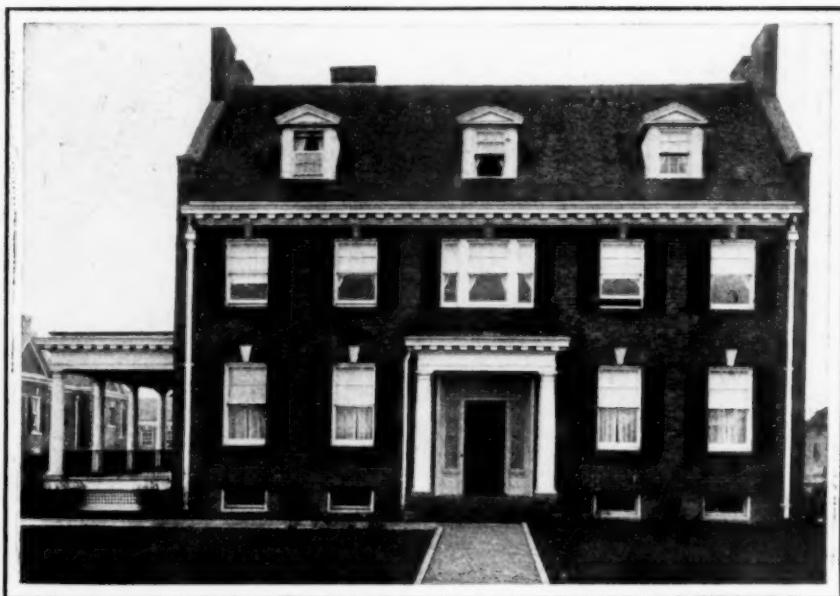
a nursery of six beds and a woman's ward of twelve beds, diet kitchen, toilet, bath, linen and utility rooms, nurses' office and solarium.

The south pavilion contains five private rooms, a men's ward of sixteen beds, diet kitchen, toilet, bath and utility rooms, nurses' office and solarium.

The first floor of the west pavilion, with the exception of one room which is reserved for an x-ray room, is occupied by domestics and by those probationers for whom there is not accommodation in the nurses' home. In 1912 additional accommodation for patients was made by raising the west pavilion, making it two stories

high and connecting it with the second floor of the administration building, where are located three well-equipped operating rooms, two for general surgery and one for the specialties of the eye, ear, nose and throat; sterilizing room, doctors' dressing room, general utility and supply rooms. This addition contains seven private rooms, two small wards of five beds each, a diet kitchen, bath, toilet, linen and utility rooms, nurses' office and solarium. It increases the capacity of the hospital from forty-five to sixty beds.

Two years ago there was also erected, just north of the hospital, a beautiful new home for the nurses who had been previously quartered in the west pavilion of the main building of the hospital and in rented rooms in the neighborhood. The home is built along colonial lines to correspond with the architecture of the hospital. It is three stories high and provides accommodation



Hurley Hospital. Front view, Nurses' Home.

for twenty-one nurses. On the first floor there are two large reception rooms, and in the basement a lecture room furnished with writing chairs, blackboard, etc. Extending across the entire south side of the building is a large porch which is accessible only through French doors leading from the reception room. The home was furnished throughout by the late Dr. J. C. Willson, well known to the medical and nursing professions of Flint and Michigan.

There is approaching completion a new power plant, equipped with two 70-horsepower boilers which provide steam for heating, cooking, sterilizing, etc., for all present buildings. Space has been provided for additional boilers when the final buildings are added to the present group.

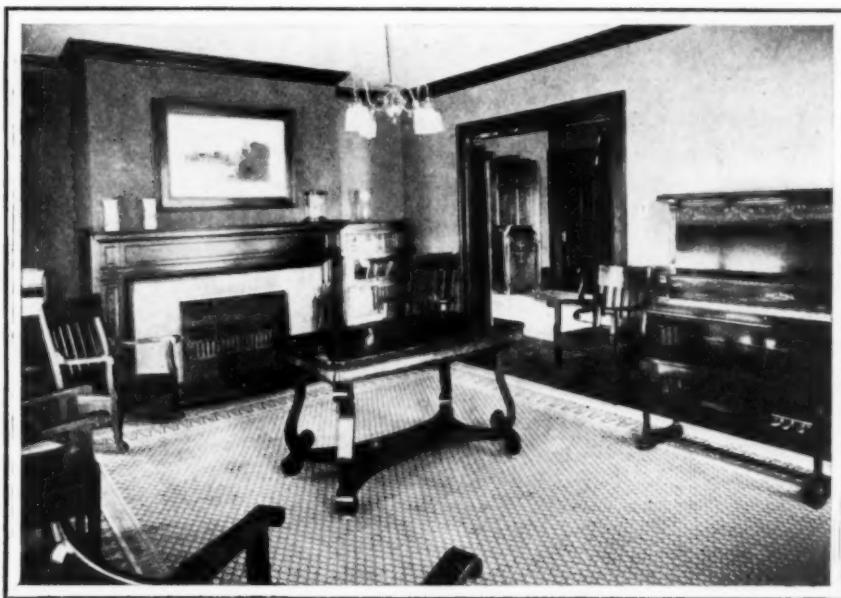
In the new building is located a laundry, well equipped with modern machinery, and a sterilizing room for the sterilization of infected clothing,

pillows and mattresses. This room has a door opening from the outside through which infected articles are brought into the room and put into the sterilizers. Through another door opening outwards from the laundry, sterilized articles are removed when clean. The valves for steam are on the clean side of the partition.

The power plant furnishes space for an incinerator for the disposal of garbage and refuse and for machinery for a vacuum cleaning system with which the buildings are equipped throughout. The new building is located across the street west of the hospital and is connected with it by an underground tunnel. When completed it will be possible to have all machinery, which has



Hurley Hospital. One of the wards.



Hurley Hospital. Living Room, Nurses' Home.

been a great source of annoyance to patients, removed from the hospital. There will then be room for a larger dining room for the nurses and for larger kitchen and serving rooms.

The details of the interior finish in every part of the hospital have been carefully studied. All corners are rounded and everything has been done to make the buildings as easy to clean and as nearly aseptic as possible. The woodwork is of white enamel with the exception of the doors, which are of plain mahogany finish. The floors, with the exception of those in the operating rooms, diet kitchens, toilet and bath rooms, which are of terrazzo, are of white tile and white maple.

Plans are about completed for a maternity and children's unit and an addition to the nurses' home. This building will connect with the present north pavilion by a large, sunny corridor and will be two stories high. The first floor will contain nine private rooms, delivery rooms and sterilizing rooms, diet kitchen, linen, bath, toilet and utility rooms, nurses' office and solarium.

The second floor will contain three private rooms, one ward each for boys and girls, one for infants, diet kitchen, bath, toilet and utility rooms, nurses' office and solarium. This solarium will be of the same size as that on the floor below.

In the basement there will be three well-equipped rooms for x-ray work, and a laboratory for microscopic work.

The women who aided so nobly in the furnishing and equipping of the present building have reorganized, and by entertain-

ments, street fetes, etc., are raising funds with which to equip the new building when completed.

The next immediate need of Hurley Hospital is a contagious cottage. It is hoped that this want may be met in the year following the completion of the maternity and children's pavilion.

The buildings were designed by Malcomson & Higginbotham, of Detroit, the work being executed under the direction of Mr. Higginbotham. The material used in construction is red brick.

The present total value of fixed property, including the estimated cost of the building approaching completion, is \$140,611.25.

From December 19, 1908, the date of opening, to December 31, 1914, 5,020 patients have been treated in Hurley Hospital.

#### Schoolgrams

"Schoolgrams" is the interesting title under which Mr. Sherman C. Kingsley, director of the Elizabeth McCormick Memorial Fund of Chicago, publishes seven interesting epigrams relating to the child and fresh air. These paragraphs are published in attractive form upon a post card and may be obtained from the office of the Elizabeth McCormick Memorial Fund, 316 Plymouth Court, Chicago, Ill. The "schoolgrams" follow:

What shall it profit a child if he gain the whole curriculum and lose his health?

The only air available from dark till sunrise is "night-air." Breathe it.

Two things of which there are enough for all—fresh air and sunshine. Get yours.

Switzerland requires her school children to be in the open air at least ten minutes out of every school hour.

Teach your child to make a childhood friend of the open air.

A question that should be asked about the ventilating system of every school—does it ventilate?

The only night air that is injurious is last night's. Open the window and let it out.



Hurley Hospital. Rear view.

THE GENERAL GOVERNMENT OF STATE HOSPITALS<sup>1</sup>

**Early Excellent Form of Trusteeship Destroyed by Political Dictum That "To the Victors Belong the Spoils"—Central Board Control Does Not Destroy Initiative of Capable Executive Officer**

BY HENRY M. HURD, M. D., BALTIMORE, MD.

THE control of state hospitals by trustees, like many other developments in connection with the care of the insane in the United States, came from current methods of organizing and governing the early general hospitals of the country. These methods of control in Philadelphia at the Pennsylvania Hospital, established in 1751; in New York, at the New York Hospital, opened in 1791; in Boston at the Massachusetts General Hospital, opened in 1818; and in the Hartford Retreat, established in 1828, were through self-perpetuating bodies variously termed Boards of Managers, Governors, Directors or Trustees. Corresponding boards for state hospitals generally appointed by the governor of the state and confirmed by the Senate or Governor's Council, held office for specified terms, and in one or two instances only were they self-perpetuating. They represented the state and governed the affairs of the hospital in its name and with its authority. Originally such governing bodies were wholly free from party bias and their members were appointed because they had been successful men and had a talent for administration. They expected no compensation other than necessary traveling expenses and were glad to serve the state from motives of patriotic feeling and a desire to promote the public welfare. They brought to the state in the management of its hospital a degree of ability and skill which could not have been adequately rewarded by the payment of any salary, however large, and it was deemed an indignity to the men who served in these capacities to offer them merely nominal pay. They had an honest pride in serving the state in the care of its public institutions. They formed a body corporate and from the experience acquired during their long tenure of office were able generally to act with mature judgment in all matters affecting the welfare of the institution.

If such governing bodies in every state had always remained free from party politics it is difficult to see how they could have been surpassed in excellence, but unfortunately too often they were not permitted to do so. This was especially true in the border states prior to, during and succeeding the Civil War, when party control in many

states was held by a narrow margin and members of both opposing parties felt justified in appealing to every motive which could attract the voter or reward party fealty. Such political considerations in too many cases led governors of states to appoint trustees or managers governed by the hateful dictum that "to the victors belong the spoils," who appointed in their turn men whose qualifications were principally that they were sympathetic with their own personal political convictions. As a result state institutions became demoralized by incompetent officials and, the standard of efficiency being set by party standards rather than by considerations of the welfare of the institution, serious difficulties, and even scandals arose in administration.

In some of the newer states boards of trustees had not been appointed, but the management of institutions had been placed in the hands of ex-officio boards, especially where the institution was situated at the state capital. These boards were often composed of state officers, as the governor, treasurer or secretary of state. Sometimes a single appointee, generally one of the governor's appointment, was associated with these officers as an executive of the board. As these state officers received no compensation for their work, it was not strange that they often were reluctant to give much time to their duties and were generally superseded by other boards when the hospitals of a state had outgrown the pioneer period. There has been a tendency, however, to retain the principle of centralized control. As a result of this, in many commonwealths so-called Boards of Control consisting of from three to seven salaried members have been established to manage not only state hospitals, but also other penal, reformatory and charitable institutions. In Minnesota, in fact, such a board was at first charged by law with the administration of the State University and the State Normal School. It was soon apparent, however, that such a union of charitable and educational institutions was unwise because demoralizing to the latter, and the law was amended.

The abuses which had followed political control and the acknowledged inefficiency of ex-officio control suggested the need of finding capable men who were morally fitted to make it their business to manage public institutions and who could bring to the work a high degree of administrative ability.

<sup>1</sup>This is the first or introductory in a series of papers on the Conduct of State Hospitals. Next month will appear "The Medical Organization of State Hospitals for the Insane," by William Mabon, M. D., Superintendent and Medical Director Manhattan State Hospital, Ward's Island.

ity, some knowledge of law and a business experience. In some states expert accountants, lawyers, physicians and business men were appointed with good results. Improved methods of care, better food, better clothing, better classes of employees and better financial results are acknowledged by all to have followed such appointments. As a rule these boards have been independent of politics and in some states they have made notable advances in civil service methods. The Iowa Board of Control was one of the first established and later similar boards were created in Minnesota, Kansas, Wisconsin, Illinois, Ohio, and many other states.

The Board of State Commissioners in Lunacy in New York, now known as the State Hospital Commission, has been in effect a similar Board of Control. At first it was composed of a physician who by virtue of his professional experience in the treatment of mental diseases was made president of the Commission, and two other members, a lawyer and a business man. Originally the commissioners were given advisory and supervisory powers, but when state care had been established and all of the insane of the state were gathered into state institutions it became evident that the Commission needed larger powers and they were accordingly conferred by legislation. The Lunacy Commission was changed from an advisory and supervisory board to an actual board of control with manifest advantage to the institutions and the patients under treatment in them. It has been

thought by some that the autocratic powers thus given a single body tend to hamper individual initiative on the part of executive officers in the different institutions. It is evident that this conclusion is not susceptible of proof and must be viewed as an *a priori* assertion. It is generally conceded, however, that the Commission has used its powers wisely and has promoted the comfort and proper treatment of patients. It has also developed better methods of investigation of disease and more uniform business methods. From the viewpoint of the state the salaried Board of Control and its specialized product, the New York Lunacy Commission, or, as it is now known, the State Hospital Commission, have justified their creation. That the personal interest formerly shown in such institutions by boards of managers or trustees was a valuable asset is shown by the late tendency in New York to reestablish them and to enlarge their powers by giving them a voice in the appointment of superintendents and other officers and employees.

In Ontario, the Board of Control has dwindled down to a single lunacy commissioner to whom has been given the responsibility of the supervision and government of state hospitals under the overlordship of the Home Secretary. The arrangement is not to be commended because it has apparently resulted in making appointments and promotions the reward of political service and not of experience or long years of faithful service.

## INSURANCE FOR THE HOSPITAL—VARIETIES AND LIMITATIONS

**Fire, Casualty, Malpractice, Boiler Plant, Elevator, Fidelity, Are Some of the Items to Be Covered—Agent's Responsibility—Trustees' and Administrators' Duties—Manner of Keeping the Records**

BY ALBERT A. JOHNSON, INSURANCE EXPERT,  
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IT has frequently been the experience of specialists in hospital efficiency that one of the branches in the operation of the average hospital which is most lax in conduct is that of the purchase of its insurance. There are many reasons why this is the case. First and foremost is the intangible nature of insurance. Coal, bread, meat, carbolic acid, bandages, all can be weighed or measured or counted: you can feel and see them, test their quality and compare prices; their consumption can be checked, and any waste detected.

With insurance all you get is a packet of papers couched in language more or less puzzling to the wayfaring man, and often further complicated by numerous endorsements attached to the original documents. There is nothing strange about this inability to comprehend a policy.

Insurance is a highly technical business. Policies and policy forms have been drawn to meet various legal conditions, which have grown out of decisions by the courts. They must in many features comply with state laws and rulings by insurance departments. They are contracts of a definite nature to pay losses arising from certain contingencies, and must be so framed as to meet these contingencies only. As, for example:

### FIRE INSURANCE

A fire policy pays for losses from fire; it also pays for damage from water used in putting out a fire. It does *not* pay for loss from a leaking roof or bursting water main. A hospital superintendent is not an insurance man; he is not hired as such, but for his knowledge of hospital admin-

istration. In his own mind he may realize what insurance the hospital needs, but unless those needs are incorporated in carefully drawn policies the hospital must take its chances with policies made out and approved in perfunctory fashion and perfectly good only so long as no loss occurs.

Another reason lies in the nature of hospital management. A factory or store is run to make money for those interested. Naturally, when it touches their pockets the owners are going to see that they do not pay excessive premiums and that they receive proper protection against the hazards of their business. With a hospital, carried on as a semi-charitable institution under a board whose services are contributed voluntarily, and who have no personal money interest at stake, there is no such incentive. With the best of individual intentions it can hardly be otherwise. Those who are competent to do such work as a rule have their hands full of other things, while those serving purely from social considerations often lack the necessary training.

Then, too, there is the division of responsibility. Everyone's business is no one's business. Inadequate insurance or no insurance does not force itself on the attention. Cold rooms, poor food, inferior medical and surgical supplies make themselves known at once. But as long as nothing happens insurance gives no sign of warning to the trustees that either through carelessness or a "penny-wise-pound-foolish" policy of trying to save a few premiums they are placing in jeopardy the charge committed to their stewardship.

#### THE AGENT'S RESPONSIBILITY

A third factor is the local agent. In most instances he is a bright man and a good underwriter. On the other hand, especially in the smaller places, his experience is limited. Very often he is primarily a fire insurance man with only a slight knowledge of those branches of casualty insurance which now are as essential as fire insurance. If he contribute to the hospital and he or members of his family serve on its board the insurance is very apt to drift into his office; which is perfectly right and proper provided he can handle it. The worst condition arises when, in an effort to make everybody happy, the insurance is farmed out among several agencies, without any central expert supervision. Each agent writes up policies according to his own taste and fancy. When a loss occurs it is only through good luck that there is no trouble in making adjustments. It may even be so bad as to lead to protracted and expensive litigation to determine the rights in the matter.

Often a hospital has grown from small begin-

nings. It has been started when a town was young and has shared its development. The original building has been enlarged and other buildings put up from time to time. As the plant has grown, more insurance has been taken out, covering now this part, now that. The result finally is a conglomerate of policies covering different parts of the property at different rates, with different expirations and utterly devoid of any system.

To attempt to prescribe any hard and fast system to cover all hospitals would be on a par with the "absent treatment" of the Christian Scientist. Each hospital has individual needs which should be considered. A small plant all under one roof is very different from one where there are a number of buildings of various kinds. In any case a correct appraisal and inventory of all buildings and contents should first be made. This will give the proper figures for insurance and will also show where the separate values are located.

With the use of the coinsurance clause this is absolutely necessary. Under the 80 percent clause the amount paid to settle any loss bears the same proportion to the amount of that loss as the amount of insurance carried bears to 80 percent of the value of the property. For example: value of property \$100,000. 80 percent of this is \$80,000. Insurance \$50,000. \$50,000 is  $\frac{5}{8}$  of \$80,000. The company therefore pays  $\frac{5}{8}$  of any loss. This is on the principle that, when the insured is carrying a less amount of insurance than a certain proportion to the value of the property, he becomes a co-insurer for the difference and must stand his proportion of loss. Of course, with a total loss, where the entire plant was wiped out, the full face of the policies would be paid.

With a knowledge of the requirements of the rating bureau, which has the fixing of insurance rates in the district where the hospital is located, much may often be done through correcting structural deficiencies or putting in fire-fighting apparatus to secure a reduction in rates and also to diminish the chance of fire.

#### THE SPRINKLER SYSTEM

In the case of one New Jersey hospital this has been carried so far as to instal a sprinkler system. This is a system of overhead piping running to every part of the building, stairways and closets not excepted. A central tank supplies these pipes with water. At intervals along these pipes are "heads." These are outlets, which when open let out a shower of water. They are kept closed ordinarily by a link of metal, which is made to melt at a certain temperature. When the temperature of the room rises to their melting point these links fuse, the heads open and a shower

drowns out the fire. It is just the old ounce of prevention. In a large plant such a system will pay for itself in time in the savings in rates, while, under any circumstances, it does so much towards making the entire hospital safe from fire that it deserves a careful consideration. This is particularly the case with a hospital or sanatorium out of town, where the protection afforded by fire departments or hydrants is slight or lacking altogether.

Care should be taken to install a system that is approved by the board of underwriters. A second-rate system is worse than none. It gives a false sense of security. It may or may not act when it should, and it may act when it should not, and do a large amount of damage by flooding the place with water. As such a performance was described in a trade paper—

*"The sprinklers sprinkled all night,  
While the stars twinkled all night."*

To meet such a contingency sprinkler insurance has arisen. This takes care of any loss arising from defects in the system. Sprinkler heads opening at wrong time, leaks or collapse of tank are all covered. "Water damage" is a somewhat similar form of insurance, which can be carried along with sprinkler insurance, or by itself, when there is no such system. It takes care of all losses from water damage, from plumbing or heating systems, open taps, leaking roofs or leaders, and open windows.

#### CASUALTY INSURANCE

Fire insurance has been in existence so many years that the general public has become educated to it. It is only in recent years that we have begun to learn the necessity of casualty insurance. Hospitals need several forms of this kind of insurance. To attempt to carry on a hospital without them is taking a chance of involving it in losses which would cripple it as seriously as a fire loss with no fire insurance.

Many states now have "workmen's compensation laws." Under these laws an employee, who is injured during service for an employer is entitled to a certain definite compensation depending on the severity and nature of the injury and amount of wages received. The old defenses of "assumption of risk" and "negligence of fellow servant" are eliminated and only in the rare instances where intoxication, or a wilful negligence, or disobedience of orders can be clearly proved, does the employer stand any chance of escaping his liability.

If a nurse strains herself in lifting a patient, if a doctor contracts blood poisoning from an operation, if an orderly trips and injures himself by a fall down stairs, in each case the hospital would

have to pay. Even a stenographer who happened to be run over while taking a deposit to the bank for the hospital would come under the law. It is easy to see that in the case of a bad accident where a number of employees happened to be injured the payments in question would be very heavy and might be a severe draft on a hospital's resources. Compensation insurance takes care of this.

There is also a liability to the public for accidents. This applies not alone to patients, but to anyone on the premises or walks adjacent. Damages have been obtained for injuries from slippery sidewalks, bricks or ice and snow falling from roofs, defects in stairways and floors, insufficient light on stairways, glass blown from a window, a pile of rubbish causing a fall, defective balcony railings, to mention just a few cases. These are not theoretical, but actual findings in courts in various states, which can be looked up and verified. Under a general liability policy these contingencies are covered. If there is an elevator in use it should be covered, either by a separate policy, or by endorsements on the compensation and general liability policies, as accidents arising from the operation of any elevators are distinctly excluded unless specifically covered as above.

#### MALPRACTICE INSURANCE

This does not, however, take care of one class of suits, that brought by a patient alleging wrong treatment or negligence on the part of doctors or nurses. It is very easy to start such a suit. Any unscrupulous lawyer will do it, if he sees half a chance to get something on a "contingent fee" basis. The least cause will serve as the groundwork. A burn from a hot-water bag, a broken limb not properly set, infection following an operation, or, where an antitoxin has been used, a claim that it was improperly or wrongfully administered, are just a few sample instances. The cost of defending such a suit is large. One casualty company states that it costs on an average \$1,000 a suit, while at the present time it has one suit being carried on, which has cost so far \$8,000, and is not yet decided. In some cases it has paid \$300 a day for expert testimony. This company also tells me that it is now engaged in defending over thirty suits. Such suits are becoming more and more prevalent. Even if a suit is groundless and the hospital wins, it has been put to expense and annoyance, not to mention publicity of very unwelcome description. The remedy is hospital defense and indemnity insurance, where the casualty company bears all expense of defense, and, in the event of an adverse decision, pays in addition damages up to a certain fixed amount.

There is one hospital not a hundred miles from New York City, which has a three-thousand-dollar motor ambulance running around town uninsured. Considering the way an ambulance must travel, when answering emergency calls, it seems a rather strange way to take care of three thousand dollars' worth of perfectly good property. Suppose that "bus" hits somebody? Will it in such an event prove an asset or a liability? Yet this is just one instance of neglect of hospital insurance.

#### BOILER PLANT INSURANCE

Every hospital of any size has a boiler plant for heating the buildings and supplying hot water. Do such boilers ever explode? They do and can make a bad wreck. The idea that only a boiler exploding at high pressure can do any damage is all wrong. I can give instances where persons have been killed and thousands of dollars of damage done to property. Some of the less expensive heating boilers are made with cast iron parts. Carelessness in operation will crack these and damage the boiler. In one case, which came under my notice it cost over five hundred dollars to make the boiler right. These people now pay \$50.50 for a policy for three years, which includes loss from such a cause. It also covers damage to any property, either their own or that of others, and personal injuries resulting from an explosion. The value of boiler insurance does not lie alone in its payment of losses, but also in the inspection service which gives every boiler a thorough overhauling at least once a year. This serves to detect any defects before they have become serious, and affords a chance to take the proverbial "stitch in time." By furnishing advice about the care and operation of boilers it often saves money for the owner by lengthening the life of the boiler and increasing the efficiency of operation.

#### FIDELITY INSURANCE

Fidelity bonds can be had at such low rates that it seems wise to cover any persons in the hospital management who have to handle any considerable sums of money. Most persons are honest, but why should trustees lay themselves open to criticism by neglecting to insure against wrongdoing on the part of those employed by the hospital?

A book of expirations is probably the worst way to keep track of insurance policies. As policies expire and are renewed or changed the book becomes marked up and involved in hopeless fashion. A card index is much easier and simpler. All dead stuff is cleared out and only live policies remain on file, one card being used for each policy. The exact form of card is not material. It should give all the essential facts about the policy, date

of expiration, number of policy, name of company, property covered and location, amount, rate, premium, term, form used (this can be a number referring to a specimen similarly numbered on file), and name of broker who placed the insurance. By the use of tabs or metal signals on the tops of the cards, each month's expirations can be seen at a glance. This is not as complex nor as difficult as it may sound. Where there are not many policies a space in the card files can be given to Insurance, and plain blank cards used to keep the record, each card giving the required information. The main thing is to have a ship-shape record ready at hand for reference and not to have to dig up the policies from the safe deposit box when any question about them arises.

To carry adequate insurance costs money. It is foolish to try to pretend that it does not. The question for the management of every hospital to decide is whether they want to run along insured in a hit-or-miss fashion, covering this and taking a chance on that, or whether they want to handle their insurance with the same care and system as an up-to-date manufacturing plant, taking every measure to protect themselves against the hazard of the unforeseen catastrophe, and by insurance making the cost a fixed, definite amount in their yearly expenses and not a gamble with chance? If a loss takes place and the hospital has to face a payment of thousands of dollars, what explanations can the management give to those supporting it? "We didn't know"; "We took a chance": neither will pass for much of an excuse.

These are the salient features of insurance meeting the needs of a hospital. The various details of construction and equipment for prevention of fire or accidents, and safeguarding patients and attendants, could themselves be made subjects of lengthy articles. It has rather been my aim to show the need of system and accuracy in arranging insurance and the wisdom of carrying proper casualty insurance in the operation of an up-to-date hospital.

#### Arkansas' First Tuberculosis Clinic

The first tuberculosis clinic in the state of Arkansas has been opened at Little Rock. It will be under the direction of the Pulaski Anti-Tuberculosis Society. A plan has also been worked out for cooperation with the state university students in this work. A recent survey of the anti-tuberculosis work in Little Rock by Dixon Van Blarcom, field secretary of the National Association for the Study and Prevention of Tuberculosis, has proved a great stimulus to local work.

Twelve automobile ambulances have been given the Red Cross for use in the war zone by the students of Yale University. The students of Harvard have given five. Each ambulance is equipped to carry two wounded men.

FEEDING THE HOSPITAL—VARIOUS KINDS OF INSTITUTIONS<sup>1</sup>**Catering to the Tuberculous—Feeding the Children—The Insane Have Their Own Problem—Buying For and Feeding Eleemosynary Institutions—In Private Sanatoriums—Help in the Kitchen—Dietetics of the Future**

BY LULU GRAVES, DIETITIAN, LAKESIDE HOSPITAL, CLEVELAND, OHIO

PROFESSOR MENDEL of Yale says, "Among the modern sciences that bear upon the everyday life of men, there are few which appear to meet with so little popular recognition as does the science of nutrition." This is very true in general, and more conspicuously true in our hospitals and other institutions where, in other departments, scientific work is not only recognized, but regarded as necessary.

The large majority of our hospitals have, until recently, given very little thought, effort or money to the planning or equipping of their commissary departments; and even now it is only a few that have done so. Visitors, or those who for any reason wish to see the hospital as a whole, or to observe the scheme of working in its several departments, are very seldom shown the kitchens. There is usually plenty of reason for being ashamed of the kitchens, yet I have never heard a good reason why this state of affairs should exist.

Institutions are known by the manner in which they prepare and serve food, just as individuals are known by their reputations for efficiency and morality. It is surprising that we get as good results as we do in the feeding of hospitals when the commissary department receives such indifferent attention. No one questions the importance of good food in a hospital; very few have any conception of the difficulties to be overcome in serving good food. I shall not go into detail in regard to the equipment of kitchens; the description of kitchen equipment published in the March number of *THE MODERN HOSPITAL* was so excellent that it is unnecessary for me to discuss it further. I want, however, to emphasize the necessity for good stoves and good ice boxes.

The difficulty of cooking with a defective stove or oven, when feeding a large number of people at a specified time three times every day, cannot be imagined by one who has never been through the experience. Psychologists tell us that persons employed about furnaces, large ranges or places where they work in a high temperature "are likely to become unstable in their disposition and intemperate in their habits." When, in addition to this, they are subjected to the annoyances of improper utensils or inadequate equipment, how much greater must be the effect on their disposition and

habits, and incidentally, upon their efficiency. Food which is overcooked, undercooked or unevenly cooked is not palatable, and much of it is not easy of digestion; and this fact may result in great waste, which in time amounts to more than the price of a stove, not to mention the dissatisfaction that sort of food creates.

Adequate refrigerator space is very necessary to keep food at its best, all the more so where such large quantities are used that a long time is required for its preparation, which is done in a room at a comparatively high temperature. Artificial refrigeration has reached such a stage of perfection that even small hospitals find its use advantageous.

Good equipment and intelligent cooks are essential in the proper feeding of every institution, whether it be large or small, of limited means or well endowed; though the kind of food, methods of storing, and the cooking and serving are extremely variable in different institutions for people of the same class.

In a state or county institution the supplies are bought by a purchasing committee, usually at a per capita rate, for three months or six months at a time. As everything is bought in such large quantities it can usually be bought at lower prices and there is little excuse for purchasing goods of poor quality. Since they are to be kept for some time, it is not good policy to buy anything of poor quality. A large, dry, well lighted, well ventilated store room should be provided for the supplies.

While this method of buying makes it more difficult to have a great variety on the menu, it affords splendid opportunity for systematic control of the whole food problem. If it is not well controlled, however, there is great opportunity for waste. More or less waste is unavoidable from vegetable decay, shrinkage in the store room due to the large amount which must be kept on hand, or carelessness in the kitchen and store room. The majority of the people working in the kitchens of our institutions become so accustomed to seeing great quantities of food that they do not have the proper respect for small quantities. To them a quart of milk or a pound of meat is a trifling matter. The first criticism of my own management which reached me after taking up hospital work was the report of a nurse in the diet kitchen to

<sup>1</sup>This is the eighth and last of the series on "Feeding the Hospital;" last month, "Classes of People to Be Fed."

this effect: "Why, she won't even let us throw away a pint of milk, and the eggs that we break the yolks of, that can't be poached, must all be saved and used in cooking." This is a common attitude of nurses toward hospital property, and it is even more common in the kitchen force.

In the report of the dietary studies carried on in the institutions of New York City, it was stated that the kitchen force became interested in the experiments and a definite effort toward improvement was especially noticeable in cooking and caring for supplies in both the kitchens and dining rooms. The influence upon the chef and cook was most beneficial. This result can be attained in any institution and is particularly desirable in the smaller hospitals whose means are limited.

It is often assumed that the appetite may be taken as a measure of the amount of food required, but in many cases this is a very unreliable guide. Excessive eating is not only a waste of food, but it is injurious to health. Eating too little is also injurious, but the evil effects may be more easily remedied, provided the habit is not kept up too long.

In feeding the insane it is frequently necessary to regulate the amount of food allowed individuals; otherwise some patients would eat more and others less than they need. It may not be necessary to regulate the amount of food eaten by the sane, but in many instances it is advisable. The caloric method furnishes a pretty accurate estimate of the requirements of the average body, but it does not deal with the requirements of the individual. The averages, however, furnish a very reliable guide to the metabolist. There is a vast deal of work necessary in introducing this method, but once established it is comparatively simple.

A great many institutions of all kinds are estimating per capita cost. This is an excellent plan for obtaining general information and for comparison, but it cannot be taken as a standard. Such common food stuffs as butter, eggs and meat vary so greatly in price from year to year and in different sections of the country that the same amounts might not be equally feasible in the East and in the West; and in one year a given sum might not buy nearly as much as it would in another. It is possible to have a generous per capita cost and at the same time to feed the people in a very unsatisfactory manner, because of waste, lack of proper division of food stuffs, injudicious serving or fluctuating population.

The per capita ration is a very satisfactory method of estimating the quantities of food stuff required. The ration differs according to the people who are being fed; the allowance for the

patients would not be the same as for the people working, but the menus are never the same for the two classes of people, so it is easy to have the two estimates. The allowance for one hospital might not be at all satisfactory in another, so a table of quantities could not be used generally, any more than one of per capita cost could; it is, however, the most accurate system with which I have had experience in providing quantities, and there is less waste and fewer left-over things to take care of.

These are a few of the general problems that apply to any kitchen in which the food must be prepared in large quantities; there are, of course, many specific conditions to be met in each individual commissary department.

#### FEEDING THE TUBERCULOUS

In tuberculosis hospitals the food should be given in smaller quantities and given more frequently. The patients must have not only enough food to nourish them in the normal way, but there must be enough to repair the damage done by the ravages of the disease. The food must be wholesome and the food materials in good condition; no green or over-ripe fruits or vegetables should be used. The milk should be clean and free from contamination of any sort right up to the minute the last of it is used; it should test not less than 3.4 or 3.5 percent of fat. Milk and eggs are used for tubercular people in comparatively large quantities, and it is especially desirable that they be carefully selected and cared for. No matter how good milk and eggs are, the patients are apt to tire of them; and it is not necessary that they constitute the chief part of the diet, though they must be used generously because of their high nutritive value and ease of digestion. Other foods may be used freely to supplement the milk and eggs. Green and fresh vegetables cooked with plenty of butter or cream sauce, or served with oil, furnish mineral salts and fat, and the bulk which is helpful in preventing constipation. Cereals well cooked and served with milk, cream, or butter are an excellent food for tubercular patients. Unpolished rice might well be used much more than it is. It has a nutty flavor which makes it more palatable than the polished rice, and is therefore more acceptable and has greater food value. The acids of fruit are stimulating to the digestion and the sugars add to the caloric value of the diet. All food should be simple—no rich puddings or pastries, highly seasoned food or combinations of sauces, wines, etc. It should be cooked in the manner that will make it easily digested and assimilated, in order that the digestive organs may not be taxed and that the body may not lose any of the food value.

The tubercular patient should not eat large quantities at a time. His comparative inactivity does not allow him to get the greatest good from his food if taken in this way and his digestive organs are apt to suffer from it. Light lunches, or some form of nourishment in the middle of the forenoon and afternoon are much better for him.

In the hospital where insufficient funds or lack of help makes these luncheons impossible, a glass of eggnog, a bowl of bread and milk, a cup of cocoa, a disk of junket, a plate of dates or figs, may be served at small expenditure of time and money, and any one of these is a helpful addition to the patient's diet.

#### FEEDING THE CHILDREN

Children's hospitals need a dietary similar to the one just outlined, except that vegetables and fruits should not be served in the form of salads. For the younger children all vegetables and fruits should be made into purées, strained, and meats should be chopped; but the older children should be given things which require chewing and should be taught to masticate them thoroughly. As in the tubercular diet the food should be simple, plain and thoroughly cooked; milk and eggs are necessary, and even more of the cereals, gruels, cream soups, etc., are desirable. With the children, too, serving smaller quantities and serving more frequently is essential.

The question of infant feeding is usually one that is decided by the physician in charge, and the preparations are apt to be according to formulae furnished by him.

For that reason I shall mention only in a general way some of our more common preparations. Milk may be modified in many ways, with definite proportions of fat, sugar and protein according to formula, or with lime water or barley water in order to prevent the clotting of the casein into curds that are hard for the digestive juices to break up. Barley has glutinous properties which make it especially good for modifying milk. Chymogen milk is milk which is sterilized and then cooled to a temperature of about 104° or 105° F., and to which chymogen powder is added to coagulate the casein. The curd is then beaten until the clots have all disappeared; care must be taken not to heat the milk above 98° F. before feeding, or the finely divided particles will again form a clot. Chymogen action is much the same as the digestive step in the stomach caused by the action of rennin, and the separation of the curd by beating merely helps the action a little more. Peptonized milk and eiweiss milk are other forms much used in infant feeding; they have been discussed in a previous paper.

Horlick's, Nestlé's, Eskay's and Mellin's are

some of the more common prepared infant foods in the market. Various individual merits are claimed for them by their manufacturers. For Horlick's it is claimed that full cream is added to the milk and malted grain; for Mellin's, that no cane sugar is added, but an extract of wheat is used, and malt; for Eskay's albumin food, that it is made from egg albumin and cereals. At the University of Illinois some pretty thorough tests of these foods were made by Miss Wheeler. She used white mice for the experiment and concluded that Mellin's and Eskay's are not capable of serving as an exclusive ration; one modification of Mellin's will satisfy the requirements of nutrition but not of growth. Nestlé's and Horlick's will maintain body weight, and growth is more rapid than normal. These artificial foods are helpful when used advisedly.

#### FEEDING THE INSANE

The hospital for the insane has a somewhat different problem. While the food of the insane must be plain and have a high nutritive value, there are some complications in serving not to be found in other places. The need for well prepared and attractively served food is just as great here as elsewhere. It is difficult with many of these patients to persuade them to masticate their food properly. Epileptics and the demented are inclined to bolt their food. Supervision of the dining rooms is almost imperative to overcome this difficulty, as well as to prevent wasteful serving, to see that some are not overfed, while the depressed and oversensitive eat too little. It is important that the dining room be well ventilated at the meal hour and that no disconcerting sounds or disagreeable odors reach the patients, as there are nearly always some who are likely to be affected by these external conditions more than rational persons would be. They may have delusions about their food which are difficult to overcome and which cause them to refuse to eat. There seems to be as yet no very satisfactory solution of the problem of feeding the demented who cannot be trusted with knives and forks. All too frequently their food is put into any sort of container that the hospital finds convenient and of little value if destroyed. Some infirm patients, because of their inability to masticate, may be able to eat only vegetables and fruits that have been strained, meats that have been chopped, and soups and other soft things. Their diet must necessarily be monotonous and there is all the greater need that it should be well cooked.

#### FEEDING CHARITY HOSPITALS

In the state, county or municipal institution, where the supplies are bought by a committee not

directly associated with the house, and are to last for a period of several months, it is helpful, provided the population is not too variable, to use the per capita ration as a basis in making out the order. In these hospitals it is imperative that there should be intelligent and judicious supervision of the commissary department. Otherwise, toward the end of the period for which supplies are purchased there will be a shortage of stock. Supplies should be given out by requisition only and there should be a definite system of drawing upon them so they may be used with approximate uniformity.

Mrs. A. P. Norton, at Oak Forest, Chicago, had a very satisfactory method of doing this. Menus were made out for three weeks, allowing for as great a variety as possible during that period; these were repeated, and any desirable change was made from time to time in minor things, such as fresh vegetables and fruits, as they came in from the farm or were ordered. In this way perishable things could be used as they were delivered, but meats and other things for which time was required in ordering could be kept in supply as needed. The butcher had a copy of the standard menu, knew whether the menu for the first, second or third week was being used, and could order his stock accordingly. This avoided a repetition of any one thing on the same day of each week, and the supplies in the store room were drawn upon according to the quantities available, thus making things come out even.

In these institutions the fare must necessarily be less expensive and of less variety than in the private institution. In the latter there is especially great need for a cook who can cook well and introduce variety in the way of seasonings or combinations of common food materials.

#### FEEDING THE PRIVATE SANATORIUM

In the private sanatorium and hospital the need for a heavy nourishing diet is not ordinarily so great as the need of an attractive, appetizing one. While many of the patients must be "built up" and must have nutritive food, they require greater variety, dainty service and generally less in quantity. Proper combinations of food, served, in so far as is possible in a hospital, in a novel and original manner, are most important. This does not mean that better cooks should be employed, for it is just as essential that the plainer foods should be well cooked as it is that the more delicate ones should be; but it means a greater number of employees. A small touch in the way of garnishing, or a tiny bit of an appetizing sauce added to a vegetable, salad or dessert, may represent an addition of a great deal of work in the preparation of that particular dish. High-class

restaurants and hotels make much of these extras and the public has been taught to expect them, but these places provide every sort of machine or device for the preparation of fancy things; while in the majority of hospitals it requires all one's power of persuasion to get the necessary utensils and equipment for such work.

There is a strong tendency to overdo garnishing and decorating, and we often find that the efforts to lend a pleasing note have completely overshadowed the preparation of the article itself. To a sensitive person this is most displeasing, and our private sanatoriums have many sensitive and supersensitive people. Besides the extravagance of this habit, it sometimes leads to the substituting of a less valuable food material for one of greater value.

In order to serve its principal purpose, a sanatorium must be more or less remote from large cities, consequently it cannot have access to large markets. Unless, therefore, the sanatorium has its own source of supply, one's ingenuity is severely taxed to provide the desired variety. As the serving is done in a dining room, the situation is not so serious as it might be otherwise. One can often combine small amounts of meat, fish or poultry into chowders, omelets or casserole dishes; or, with vegetables, make them into ragouts; and, with the addition of white sauce, cream soups and bisques may be made from them. Vegetables and fruits may be used in fritters, salads and soufflés in an almost endless number of combinations. These things are possible where the service is almost directly from the kitchen, and the serving is at a table.

#### HELP IN SANATORIUM KITCHEN

In the sanatorium kitchen we find the problem of help different from that of the kitchens of other institutions, as either the civil service requirements, or inmate help, or both complicate matters. There are often times when the force is weakened by the absence of some of the number, and yet the meals must go out promptly; and the meal hour in all large institutions extends over a considerable length of time, so that there is little spare time between meals. Under the civil service rules no employee may be made to work an extra hour, no matter how great the need. The work in the kitchen begins at half-past four or five o'clock in the morning, and may not end until seven or later in the evening; so it is very necessary that enough people be employed to allow for relief.

I shall not consider the question of inmate help from the standpoint of the institution, or from the standpoint of other departments, but from the viewpoint of the kitchen. Inmate help is not competent, of course, and with the exception of the

preparation of vegetables and fruits, or some part of the cleaning, there is very little about the kitchen that should be left to such help. Infirm people cannot work rapidly enough to accomplish much in the kitchen; frequently they are not cleanly about their persons or habits, and should not work near the food. Very few of them do any work about the culinary department well; it is work with which, as a rule, they are not familiar.

#### DIETETICS OF THE FUTURE

In the "sphere of woman" there is no greater field for work than in the commissary departments of our modern institutions. There is much to be done, for the ground has not yet been fully prepared, and there is great need of its being done. No better laboratory for scientific work can be found, and in no place are results more satisfactory; there is pleasure in seeing a patient not only recover from effects of a disease, but learn so to control his diet in the future that there will be no recurrence of the disease. Of this type of work scarcely enough is being done as yet to mention; but it sets a standard for future work in

dietetics. So many people are beginning to realize the value of this knowledge and are asking for it that we shall be kept busy answering them while waiting for the development of this work, which is coming "slowly but surely."

At a meeting of the American Association of Officials of Charity and Correction, held in Memphis, Tennessee, last year, a paper was read in which cooks and dining room employees were advised to take the same kind of course in dietetics as is given to nurses in some training schools.

I should like to quote from Dr. Mendel again, though he has set even a greater task than I have for the dietitian of the future. He says: "In breaking away from stolid empiricism and conservative indifference in matters of diet, we need not be blind to the valuable contributions embodied in the experience of generations of mankind. But when the physiologist has succeeded in some degree in interpreting or correcting this experience, it will become the duty of the dietitian and the physician to act as advance agents in the promulgation and the application of the newer knowledge in everyday life."

#### PAY PATIENTS IN ISOLATION HOSPITALS

##### New York Health Department Issues Important Order Based on Exhaustive Inquiry

The question of whether or not patients suffering from the communicable diseases should be obliged to pay for their care—if they can—in publicly supported special hospitals, has been a much mooted one for a long time. A good many health officers, Dr. George B. Young, of Chicago, among them, have insisted that these patients are not taken care of at the public expense for their own sake, but as a protection to society, and consequently should not pay.

A good many members of the medical profession insist that people able to pay should be made to do so, and that they should be permitted to employ their own private physician, who should be allowed the privileges of these publicly supported hospitals.

The New York Department of Health has recently made some exhaustive inquiries into this matter and has issued the following order for that city:

From time to time, public or private criticism is made of the gratuitous treatment in the hospitals of the Department of Health of patients suffering from infectious diseases.

In those municipal hospitals where other classes of patients are treated, it is now the accepted policy of the city to require the payment of hospital charges by those patients who, upon investigation, are found to be able to pay. Whether this latter policy may wisely be applied to infectious cases is a question.

There is a distinction to be made between patients suffering from infectious diseases and those suffering from other forms of disease; the former are not as a rule eager to become hospital patients, but their hospital isolation is, in many cases, desirable for the protection of the community. If the payment of a hospital fee were demanded as a prerequisite to admission, how many of these patients would be willing to enter a hospital? And, apart from the question of the willingness of the patients to pay, how many would be able to pay?

In order to answer this question, an investigation was

recently conducted by the Bureau of Infectious Diseases. For a period of one month the diagnosticians of the bureau, when making arrangements for the admission of patients to the hospitals of the department, obtained information as to the financial status of the family; 163 families were thus investigated. In 39 cases the father was unemployed. Among the Manhattan cases, the average weekly family income was \$10.71. No figures are given for Brooklyn because, in that borough, information concerning the family income was denied in all except six instances. Only two, out of 120 cases in which satisfactory information was obtained, were able and willing to pay. The highest weekly income reported was \$26, this income was credited to a family consisting of two adults and six children.

It is evident that a very large majority of the patients treated in the hospitals of the Department of Health come from poor families. Patients in better circumstances either enter the Minturn Hospital or remain at home. There is apparently very little if any abuse of the hospital facilities provided by the city for the treatment of patients suffering from infectious diseases.

#### Kentucky's First County Hospital

From a list of thirty nominations, a board of trustees was appointed recently for the County Tuberculosis Hospital to be erected near Hopkinsville, Ky., which was provided for by a referendum vote last fall. This is the first county hospital to be provided for in Kentucky, and marks a significant step in advance. Under the law, it will be the duty of the board to select the site for the proposed hospital in cooperation with the State Tuberculosis Commission, to supervise its construction and to provide for its maintenance out of appropriations made therefor by the fiscal court. An appropriation sufficient to purchase the site will be available from this year's tax levy in December.

The imposing new home of St. Elizabeth's Hospital at Baker, Ore., erected at a cost of \$200,000, is now occupied. The building is four stories high, and the exterior construction is entirely of granite.

THE HOSPITAL X-RAY LABORATORY—ITS SCOPE AND LIMITATIONS<sup>1</sup>

**The Equipment—Examination Room—Machine Operating Room—Fluoroscopic Room—  
Demonstration Room—Photographic Dark Room—Maintenance  
and Roentgenologist's Privileges**

BY I. SETH HIRSCH, M. D.,

PROFESSOR OF ROENTGENOLOGY, NEW YORK POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL; DIRECTOR OF THE X-RAY LABORATORY, BELLEVUE HOSPITAL, NEW YORK

**EQUIPMENT**

THE assembling of the equipment of an x-ray laboratory presents many problems. To the uninitiated the apparent difference of opinion among workers alone, based on their varied experience, is puzzling, and what with the manufacturers displaying a wide range of variety in devices intended to simplify the work, the problem of the selection of equipment becomes an exceedingly difficult one; for, who, indeed, shall decide, when experts disagree?

And yet, when analyzed, it will be found that the difference of opinion among workers is not so great, but that there is a striking identity of ideas among the worthiest representatives of this specialty. The assembling of the equipment of a laboratory is strictly the business of the roentgenologist, and neither the inexperienced layman or medical man is competent to perform the task, for there exists the possibility that price, polish or paint may appeal with greater force than insulation, commutation or efficiency. Nor does it take an extensive experience to teach that simplicity in construction and singleness of purpose is a desideratum in apparatus as well as men; in other words, that it is better to have an apparatus which does but one thing, and that simply and well, than one which serves many purposes, but serves none of them properly.

No attempt will be made here to give the details of the construction of the various apparatus nor to discuss the advantages or disadvantages of this or that particular type of machine or tube. The furnishing and equipment of the various rooms of a medium-sized laboratory will be discussed, giving just the working essentials.

**EXAMINING ROOM**

The examining room, being the room in which the plate examinations are made, holds (with the contents of the machine-operating room) the essential apparatus for the radiographic (plate) examination. It is necessary that this room contain at least one hundred and seventy-five square feet. The walls should not be painted black, as it unnecessarily increases the gloom of a room

which must be kept partially darkened; they should be of a greenish tint.

*Table.*—The table should be low, not too narrow, firm, easily movable and capable of automatic stereoscopic plate shifting. In some of the tables on the market the table top may be raised vertically, and permits stereoscopic exposures in the vertical position. This is an undoubted advantage. Then, too, by means of a board hooked over its upper edge to which single plates may be attached, chest or stomach plates may be made in the vertical position.

*Tube Stands.*—There are numerous tube stands on the market, but the majority of them are either too clumsy or too flimsy. The mechanism of the stand should be simple, its movements smooth and easy, facilitating accurate and quick adjustment for stereoscopy. It should permit of gradual but firm compression and be sufficiently heavy to prevent vibration. The portion of the stand holding the tube should be of wood; the clamp should be capable of being simply and quickly adjusted so as to save time in changing tubes. When the service is entirely an outdoor one and patients are able to walk to the table, a tube stand permanently attached to the table may be convenient; but when it is necessary to make exposures of helpless patients directly upon the carriers in which they are brought to the department, the movable, isolated tube stand is most convenient, as it permits of ready adjustment over the stretcher.

This room should also contain a tube closet, the tubes being hung on curved wires fastened to its back. The doors of this closet, as of all other closets within the department, should be sliding. Another closet for holding cones, sandbags, head clamps, compression ball, loofah sponge, and other accessories; a small shelf in one corner for the fan; and a screen with chairs behind it, where patients can undress, completes the equipment.

Where there is much work to be done, the radiographic unit of tube stand and table may be duplicated. Thus, a plate holder, consisting of a counterweighted arrangement for holding the plate, may be added for upright chest and stomach examinations; and, if desired, a third unit, consisting of a small table for the examination of the

<sup>1</sup>This is the third and last of three papers on the x-ray laboratory of the large and small hospital.

upper extremities. When these units are ready for operation, the current of the energizing apparatus may be switched rapidly from one unit to another by means of a high-tension switch and the trolley system, and the work performed with celerity.

#### ENERGIZING APPARATUS

The machine-operating room is like the conning tower of a battleship, from which all the activities of the department are controlled. In it is placed the energizing apparatus. There are two forms of energizing apparatus commonly in use today for the production of the currents of very high potential to energize x-ray tubes. They are the induction coil and the so-called high-tension interrupterless transformer. An energizing apparatus sufficient to meet all the requirements of a general service should have such potential as to permit the making of a plate of the chest with the proper tube, without an intensifying screen, in such a fraction of a second as will give a sharp negative, without the necessity of requesting the patient to hold his breath.

There are several excellent varieties of interrupterless machines on the market. The most adaptable apparatus should be selected; a transformer with a variable induction primary is preferable, as it permits of a great orientation of the potential to the vacuum of the tube. Until recently the coil was the most commonly used form of energizing apparatus, but of late this has been replaced in most laboratories by a high-tension transformer of the interrupterless type.

In deciding the type of apparatus required for a laboratory the variety of the work must be considered. If the work is such that no speed in exposure is required, as for the head or bones, then a coil capable of operating tubes of high vacuum may be selected. An excellent coil may be purchased at one-third the price of a transformer. When, however, the service is large and general, and speed is required, as in the making of chest, heart or gastro-intestinal tract examinations, the transformer is preferable.

Through the lead-covered wall which separates this room from the adjoining examination room the high tension current is carried, by means of insulated tubes, to the trolley system in the examination room. With the aid of a lead-glass window easy inspection of the examining room should be possible. In this wall is also placed a megaphone for speaking to the patient in the examining room. All the lights of the examining room should be controlled from this room.

A desk and a lead-lined box with two compartments for holding plates complete the equipment of this room. In the opposite wall between this

room and the dark room, a window with a solid revolving door should be placed, which will permit screen and plates to be passed in and out of the dark room without the necessity of entering.

#### FLUOROSCOPIC ROOM

The fluoroscopic room should be of the same size as the radiographic room. The lighting of this room is important and should be such as to permit the eye to become rapidly sensitized. The indirect or reflected lighting system, using an inverted bowl of greenish hue reflected from a white ceiling, and having the walls of a bluish-green color, gives sufficient light of the proper sort and rests and sensitizes the eye to the color of the cyanide fluorescent screen. The more rapidly the eye is sensitized the more accurate and speedy is the examination. In a room of this sort, as in the photographic dark room, where daylight must be excluded, artificial ventilation is essential by one of the many forms of ventilators.

Properly equipped and utilized, the fluoroscopic room is the most valuable adjunct of the x-ray laboratory. Not only does it make possible a rapid diagnosis, but it permits the rejection of normal material and saves much useless radiographic work. In gastro-intestinal and chest work this method of examination is indispensable.

#### FLUOROSCOPES

The equipment of this room consists of apparatus for examining patients both in the horizontal and vertical position. There are some fluoroscopic statives which are capable of such manipulation as to permit the examination of patients in both positions, but these are as a rule difficult to handle, clumsy, expensive and give insufficient protection.

Of all the apparatus in the x-ray laboratory the horizontal fluoroscope or trochoscope is perhaps the most important and useful. The trochoscope may be utilized not only for fluoroscopic examinations in the horizontal position, but also for plate work with the aid of a tube stand, the stereoscopic work being done by means of an attached tunnel plate holder which may be suspended from the side when not in use. In fact, in the small laboratory it is preferable to obtain and use such a trochoscope, with a hinged solid top, as the regular examining table.

There are many excellent vertical fluoroscopic statives on the market which embody all the requisites of protection, simplicity of movement and adjustment. These are more or less close copies of the original apparatus of this sort, designed and made by Rosenthal of the Polyphos of Munich. With the vertical apparatus, patients

may be examined in the standing or sitting position. The ideal energizing apparatus for fluoroscopic work is an induction coil operated by a mercury-gas interrupter, and the ideal tube is a properly seasoned one with a Bauer air-regulating attachment.

This room should also be provided with a lead-covered box of sufficient size to hold 14x17 plates. A dressing screen in one corner and a table for the bismuth preparation in the opposite corner, a revolvable chair, leaded gloves and glasses, lead-lined aprons, wooden spoons for palpation, complete the equipment of this room.

#### DEMONSTRATION ROOM

In the demonstration room are placed the illuminating boxes for the viewing of the plates, the Wheatstone stereoscope, the files and the office furniture.

**The three varieties of plate illumination are:**

1. By reflected incandescent light.
2. By transmitted incandescent light.
3. By the Cooper-Hewitt mercury vapor lamp.

The reflected light is superior and preferable to the transmitted light, but requires greater strength of illumination. In this type of light the reflecting back should not be too far behind the plate, while the source of illumination must be completely hidden from the eye.

When the transmitted light is used the plates should in no instance be placed in contact with the ground glass, but should be separated from this by a space of two or three inches. Where boxes are to be kept continuously illuminated the amount of current consumed is necessarily large.

The Cooper-Hewitt light, if properly shaded and not too bright, is by far the best light for viewing plates. For its equivalent candle power it is cheaper than the incandescent. It shows detail in shadows which is not to be seen with the ordinary illumination.

The Holzknecht revolvable box may be arranged both for transmitted incandescent illumination or for the mercury lamp. It occupies but small space and permits the inspection of six of the largest plates.

## PHOTOGRAPHIC DARK ROOM

It is as much an error to make the photographic dark room too large as it is to make it too small. The importance of ventilation cannot be over-emphasized. It is not essential that the developing be done by the dim glow of a single carefully shaded bulb, for it is the quality of the light and not the quantity which is important. The illumination can be improved by orange-colored painted walls. No open shelving should be permitted to exist, and all closets should have sliding doors.

The developing tables and tanks should be of Alberene stone. The developing is done with the aid of a water motor tray rocker on the stone table to the right of the system. The plate is then washed in the sink and transferred to the grooved compartment containing the fixing bath and then to the left of the partition in this tank, into the water, where it is washed and then transferred to drying racks, also of Alberene stone, placed on the table at the extreme left. Thus the entire operation is carried on progressively from one side of the room to the other. The wall in front of this system is also covered with stone into which windows are cut for the insertion of

Meal.....	gms.	Bismuth.....	gms.	Gruel.....
Position of Patient			Plate No. _____	
Shape			HYPER	
				
Size				
Position			ORTHO	
Outline				
Peristalsis			ORTHO	
				
				
			HYPO	
Defects				
Diverticulum				
			ATONIC	
				
Residue in Stomach				
				
Residue in Intestine				

Fig. 1. Chart for gastro-intestinal examination.

ruby glass behind which receptacles are provided for incandescent lights.

On the opposite side of the room is to be placed the closet for holding unexposed plates and envelopes and intensifying screens, and a table for loading screens and plates.

The plans of the equipment above outlined may undergo considerable amplification in order to meet the requirements of large laboratories. Duplication of rooms and apparatus then becomes necessary in order to permit a large staff to work.

## MAINTENANCE

It is the undoubted aim of every institution that its department shall be self-maintaining. This is indeed possible in institutions having large private pavilions where a fee for such extra examination

tions can be made. There are, however, relatively few institutions where it is possible to obtain sufficient income, with the result that the hospitals encourage their staffs to refer to the department outside patients from their own private practice.

The question then arises, has the hospital a right to engage in private practice, or should its activities be confined to patients treated in its wards or dispensaries? As an isolated, bold proposition this admits of but little argument. For it is generally acknowledged that an endowed institution has no privilege to do this. On the other hand, if the roentgenologist benefits by this arrangement in much the same way as the attending surgeon or physician does by the admission to the hospital of patients into his service, then it cannot be denied that it is his right to accept such work. However, this has been cor-

the x-ray laboratory in the modern hospital, but also to show the difficulties of the task which confronts the roentgenologist, and to plead for a better appreciation of his efforts and the value of the service he renders as a soldier in a large army of medical men who are fighting for the welfare of humanity.

The two forms shown are convenient for tabulating the results (1) of gastro-intestinal examinations; and (2) of fracture cases. These forms are the result of a large amount of composite experience.

#### Additional Red Cross Nurses Assigned to France

Ten additional enrolled American Red Cross trained nurses, each one American born, sailed for France from New York on the S. S. Rochambeau Saturday, February 20. Nine of them were detailed on important work at Yvetot and one went to Paris. Six of the ten speak French.

The names of the nurses sent to Yvetot, their home addresses and the hospitals and schools with which they have been identified, follow:

Miss Virginia Anderburg, New York City, graduate Presbyterian Hospital, New York; Miss Josephine Ashmead Clay, the Margrave, 20th and Chestnut Streets, Philadelphia, Pa., graduate of the University of Pennsylvania Hospital; Miss Helen M. Spalding, 147 Pierrepont St., Brooklyn, N. Y., graduate Long Island College Hospital, and connected with the Brooklyn Department of Health; Miss Mary M. Fletcher, Virginia Military Institute, Lexington, Va., graduate Allegheny General Hospital, Pittsburgh, Pa., and formerly Superintendent Martha Jefferson Hospital, Charlottesville, Va.; Miss Mary K. Nelson, Highland Hospital, Fall River, Mass., graduate Union Hospital, Fall River, and Superintendent of Nurses, Highland Hospital; Miss Margaret H. Patterson, 1830 6th Ave., Birmingham, Ala., graduate Asheville Mission Hospital, Asheville, N. C.; Miss Frances F. Van Ingen, 311 Cumberland St., Brooklyn, N. Y., graduate Brooklyn Hospital, formerly head nurse, surgical ward, State and County Hospital, St. Paul, Minn., anesthetist; Miss Matilda Jane MacCracker, Protestant Episcopal Hospital, Philadelphia, Pa., graduate of that hospital, supervisor, women's ward; Miss Marion McCune Rice, Battleboro, Vt., graduate Pennsylvania Hospital, head nurse, Pennsylvania Hospital, specialist in suture work.

The nurse detailed for Paris is Miss Katharine Lilly, Rockefeller Foundation, 61 Broadway, New York City, a graduate of Lakeside Hospital, Cleveland, Ohio. Miss Lilly will assist Dr. Alexis Carrel, of the Rockefeller Institute, who volunteered his services to the French government at the outbreak of the war. Dr. Carrel has been detached from the hospital at Lyons, where he was first detailed and placed in charge of a hospital at Compiègne, near the northern line of battle. In addition to the regular surgical unit the Compiègne hospital is to have a staff consisting of bacteriologists, chemists and technicians, forming a laboratory unit.

Miss Jeanette F. Duncan, superintendent of the Delaware Hospital, Wilmington, Del., has been granted leave for six months and will join the McGill Military Hospital for service near the battle front in France during the summer. Before sailing Miss Duncan will take training in military routine with other nurses at Montreal.

DEPARTMENT OF RADIOLOGY.		
New York Post-Graduate Medical School and Hospital		
DR. I. S. HIRSCH		
Name	Ward	Attending
Age	Occupation	
Plate No.	Bone	R. L. Part
Variety		inches from
	simple	oblique
	impacted	longit.
	sprain	trans.
	multiple	spiral
	comminuted	direct
	complete	T-shaped
Line of fracture	incomplete	Y-shaped
	greenstick	V-shaped
		stellate
		irreg.
Displace- ments		degree
		overriding
Upper frag.		
Lower frag.		
Relation to joint		
Epiphyseal separation		
Associated Fractures		
Date		

Fig. 2. Chart for fracture examination.

rupted into a practice by which the hospital employs its roentgenologist at a fixed salary and reaps the benefits of his labors and credits to itself any surplus. This is obviously unfair, and is but one of many problems of this kind which must be solved by cooperation between the roentgenologist and the institution.

No attempt at thoroughness and completeness in all details has been made in this article. It has been the object of the writer not only to point the way to a realization of the importance of

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OTHER IMPORTANT INFORMATION ON PAGE 34, ADVERTISING SECTION

#### Organization and Administration of Hospitals for the Insane

Hospitals for the insane are generally controlled by the state and administered by permanent officials under special laws which differ widely from those which govern corporate or municipal hospitals. Patients who are placed in them for treatment are also detained, as a rule, for much longer periods of time and often require for their successful treatment methods of personal control, and facilities for occupation and re-education which could not be secured in other hospitals.

I have accordingly at the request of my associates of **THE MODERN HOSPITAL** arranged a series of papers covering these and other aspects of the special work of State Hospitals for the Insane. They relate to medical and business organization, methods of purchasing supplies, the organization of domestic departments, occupations and industries and training schools for nurses, also an account of the care of mental cases in a special ward of a general hospital.

The first paper, which appears elsewhere in this issue, describes the usual methods of control over institutions generally exercised by the state through boards of management variously constituted.

Owing to the remarkable development of the medical service in state hospitals of New York, it

has been thought wise to secure a detailed account of the methods there employed, and the second paper has been kindly supplied by Dr. William Mabon, formerly president of the New York Lunacy Commission, and for several years past medical superintendent of the Manhattan State Hospital.

A third paper, relating to the organization and especially to the business organization of a large hospital, the Buffalo State Hospital, has been furnished by Dr. Arthur W. Hurd, for many years its superintendent.

A fourth paper, on methods of purchasing supplies for the hospitals of Maryland, has been written by Dr. Arthur P. Herring, of Baltimore, secretary of the Commission in Lunacy and also of the Maryland Cooperative Purchasing Committee.

The fifth paper, on the organization of domestic departments, has been supplied by Dr. A. H. Harrington, of the Rhode Island State Hospital, former medical superintendent of Danvers (Mass.) State Hospital, and later of the New York Eye and Ear Infirmary.

A sixth paper, on the therapeutic diversional and economic effects of occupations and industries upon patients, has been prepared by Dr. Henry P. Frost, of the Boston State Hospital at Dorchester Center, Mass.

A seventh paper, on the organization and methods of training schools for nurses in a hospital for mental diseases, has been supplied through the courtesy of Dr. E. N. Brush, the superintendent of Sheppard-Pratt Hospital, near Baltimore, by Cora McCabe Sargent, the efficient and successful superintendent of nurses at this institution.

The final paper, by Dr. J. Montgomery Mosher, of Albany, New York, gives an interesting and instructive account of the methods pursued in the psychopathic wards of the Albany General Hospital.

These papers, being prepared by persons possessing expert knowledge acquired by long observation and varied experience, may confidently be regarded as the latest expression of the views of experts in matters to which they have given long and painstaking study.

HENRY M. HURD.

#### Time Waits for an American Spa

The outbreak of the European war found thousands of American invalids seeking cures in the spas, water cures and health resorts on the continent; many of these sick people suffered hardships in getting out of the war zone; some of them were seriously hurt, and undoubtedly some of them died as the direct result of exposure, shock and excitement.

The tragic incidents of that period and the coincident feeling that came upon us all that Europe's diversion into a period of chaos meant that in so far as the people of one country could be independent of the people of another, this country should fortify itself by the creation of all that we may need for our own well being, against a repetition of the situation that confronted us immediately after war was declared, and that confronts us today.

We began to inquire into our own enormous undeveloped resources, and among other items we found that in so far as Nature was concerned, our mineral waters were as various and quite as efficacious for the cure of the sick as were those of the celebrated "cures" of the European continent.

Many of those interested in mineral waters and "resorts," having arrived this far in their analysis, began immediately to exploit their springs and their environment, and to plan various advertising campaigns to get the people to accept them in substitution for the ages-old "cures" of the old world. But these folks had not looked far enough or deep enough; they saw only the waters and the forms of diversion that go with them.

If they had gone deeper they would have found that a vast majority of the invalids who have visited the European spas have done so on the advice of their physicians here at home, and if they had gone still farther they would have discovered that our home physicians were thinking far less of the waters themselves, in these far-away Meccas, and far more about certain other items of value that have caused the medical profession in this country to give ungrudging recognition of the value of these overseas resorts. These items are (1) that patients far away from home can be brought under better control as to the routine of their lives, eating, drinking, sleeping, exercise, than where the old associations are pulling them always into habits that have aggravated, if indeed they have not actually caused, the disorders from which they have suffered; (2) that in the evolution of time in which these older resorts have participated, there have grown up about them groups of medical men highly trained in their profession, and who have surrounded themselves with all the essentials to the diagnosis and treatment of the diseases for which their waters were originally supposed to be a cure, and with all the auxiliaries of treatment.

The result has been that these men, working usually under governmental protection and patronage and financial aid, have taken places at the very top of their profession, until now, and since the era of scientific medicine began, it has been to these men, and to their control of patients, and to

their scientific equipment, that the American profession has been sending \$30,000,000 worth of patients annually, and only incidentally to the mineral waters.

If our American spas, or any of them, are to fall heir to the popularity and prestige and patronage of those in unfortunate Europe, it will be because of like conditions that will have become a part—the chief part—of their virtue.

First of all there must be medical men, morally clean, scientifically at least abreast of the literature of the day, not the literature of one disease, or a single group of diseases, but the literature that appertains to the diagnosis of all diseases, men who have had experience enough to be able to apply their knowledge at the bedside and in the laboratory, and whose spoken and written words will command the respect of the American medical profession, as promising a high order of scientific skill for whatever patients may be sent to them.

Good laboratories, capably manned, scientifically conducted dietary, skillfully directed and thoroughly equipped x-ray departments—these, with good bath equipment as one section of a complete department of physical therapy; and all these in turn predicated on a high moral tone in the community—and then proper, dignified publicity that will call the attention of the medical profession to what is being done, will spell the permanent and splendid success of an American mineral springs or health resort, and no other way will do so.

#### Speech-Making to the Poor.

The writer of this editorial had occasion recently to address a large gathering of women in one of the "mission houses" at the edge of the ghetto district in a large city. There were hundreds of the poorer women of the community present, nearly all of them having with them one or several children.

The good sisters in charge of the mission had found it almost impossible to persuade the women of the neighborhood to go to a hospital for their confinement, and they wished someone to talk to the women about the advantages of the hospital as against the home.

The privilege of talking to these women under almost any conditions and on any topic that concerned their health and welfare would have been a liberal education to a critical student, but to meet them intimately on the subject of their very special troubles and perplexities concerned in the childbearing state was an inspiration.

The look of eager wonder on their faces when they were told that a large proportion of the blind

were made so at birth because of the ignorance, filth, and carelessness of the persons who presided over their entrance into the world, had a world of meaning in it; they had never heard that before.

When the chronic invalidism of poor mothers following confinement was explained to them as having been caused by the same sort of bad service, there was a responsive nod or head shake from almost every woman present, and by this time in the talk they could scarcely keep silent; each one had a story to tell, and she wanted to tell of her own case, either to the speaker or to the woman who sat next to her, and the meeting almost came to a temporary suspension on account of the murmurings and whisperings, accompanied almost invariably by the gesticulations peculiar to people who have not a large vocabulary.

When they were told what good hospital service consisted of to a woman at the time of her confinement, and that it should cost nothing to those who could not pay, and no more than home care to those who could, the women were plainly impressed.

It seems a pity that we, whose work is largely among the poor and the dependent, should always assume that these people are also as ignorant and incapable of thinking as they are of making their way prosperously in the world. Personally, I have found it quite as profitable to argue with the people of the ghetto, provided language is used that they can understand, as with better educated persons.

Hospital and social workers should try to measure their talks to these people to their ability to understand, and, if they fail to make an impression, I wonder how much of the failure is due to the speaker's incapacity to "size up" his audience.

#### To Carry Out the Harrison Law

In the Query and Answer columns of this issue will be found a letter from the commissioner of internal revenue on the application of the Harrison law to graduate nurses on private duty. This decision of the commissioner was based on an inquiry from Miss Tufts, of Farmington, Me., whose letter is also reproduced.

It looks as though, under this decision, graduate nurses will be forbidden "to have in their possession" any of the "habit-forming" drugs, and that the nurse must secure from the physician in attendance a sufficient quantity of these drugs to carry her through one case and she must return to the physician what is left after the case is over, and she must obtain a similar supply with each case upon which she is detailed. It may be possible that the commissioner will amend this regulation if it is found not to work well.

In another column also, will be found correspondence between the commissioner of internal revenue and THE MODERN HOSPITAL concerning the execution of the law in hospitals, including a form suggested to the commissioner by THE MODERN HOSPITAL and approved by him, which would seem to meet the requirements of hospital administration. The correspondence is important, covering a most important topic, and THE MODERN HOSPITAL wishes to compliment the commissioner of internal revenue on the receptiveness of his important office for the easy furtherance of the purposes of a law that comes so opportunely for the benefit of great masses of the people.

At best, this law is going to be difficult to carry out, and it must work temporary hardship in a thousand directions. Communities everywhere must shoulder a vast responsibility in the control of these drugs, pursuant to the letter of the law, and it is only by a facile and tentative course that the commissioner can carry it out at all.

It seems that the government, in congress assembled, has passed a law that will bear very hard on a most unfortunate class of people, and the government has made no provision to meet the emergency on its own account; indeed, it seems that the treasury department has refused the use of the marine hospitals of the country to care for a part of the vast number of people who must be treated and cured of the drug habit, and has thus thrown upon private philanthropy and community enterprise the whole burden of the execution of the law.

Let us not complain, but let us rather welcome the law as one that must mean untold benefit to the people if its whole purpose can be achieved.

#### Special Feeding of the Sick

The special feeding of the sick is receiving some attention in modern hospitals—but not enough. For some months THE MODERN HOSPITAL has been trying modestly to develop this feature of hospital administration. The papers of Miss Graves on "Feeding the Hospital" were solicited and secured as a part of this propaganda, and Miss Graves has given us a splendid series of papers on food problems, from the administrative viewpoint.

Then we persuaded Mr. Street to write on the laboratory, chemical and physiological side of the subject, in the hope that medical staff members of hospitals would be stimulated to set the machinery in motion in their institutions so that they could do real, scientific work with their cases. Mr. Street's papers were prepared with great care, and their preparation involved much painstaking labor; and in some exceptionally well in-

formed quarters they have been received with enthusiasm and commendation.

But in the whole country how much actual scientific work is being done in this field, and how many clinicians are studying their cases in a workmanlike manner? A truthful answer to this question, if it could be had, would be a sad commentary on the everyday application of well known and plentifully demonstrated facts regarding metabolism and the efficacy of special feeding in certain diseases.

It is the carefully considered opinion of this particular writer that the fault for this state of things lies, not at the door of the hospital administrator, nor at that of the hospital dietitian, but that almost the whole blame rests on the medical men in the hospitals, who should be leading and directing this work, but who are not doing so.

There is hardly a 50-bed general hospital in this country today that cannot boast the presence in the institution and on the payroll of a dietitian. The fact that there is someone on the job with that title shows the attitude of the board of trustees and the superintendent in the matter; and the fact that these dietitians are tenacious of the title, and that they are doing something to justify their positions, is sufficient evidence, it would seem, that these women would welcome the activity of the medical men in the institution, and as one of them, commenting on her own situation said recently, "I would work my fingers' ends off and study until my head swam if our doctors would start something for me to do." And yet I have heard medical men in these same institutions excuse a most inadequately worked up case on the ground that they could get no cooperation on the part of the hospital in their special feeding work.

The whole trouble is that not one clinician in a hundred has even a rudimentary knowledge of the physiology of the digestion, the chemistry of the food, the laws of metabolism; and not one physician in a thousand cares as much as he knows.

It is becoming more and more the duty and responsibility of hospital boards and superintendents to demand something more than money grubbing at the hands of their medical men, and this problem of the special feeding of the sick is a good place to begin.

#### To Boards of Trustees

Most business men realize that quality of work is better than quantity, especially when the work requires brains and technical training.

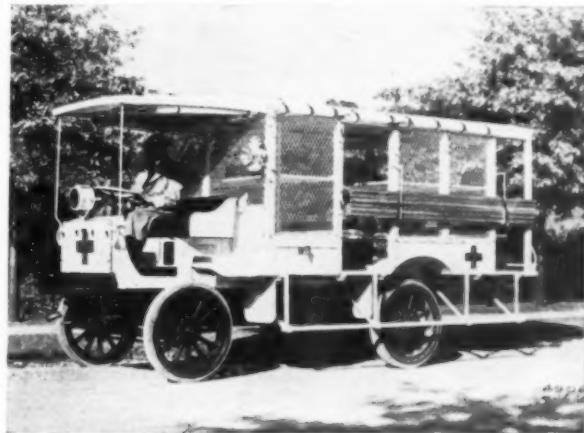
There is to be a great hospital convention in San Francisco this year, from June 21 to 25. The leaders of hospital thought in this country will be

there—men and women who have been conducting successfully their institutions. A splendid program has been arranged, and the discussions will cover almost every phase of hospital activity, architecture, equipment and administration.

Your superintendent, in attendance on this great gathering, will get a pleasant and most needed rest, will acquire invaluable information for your hospital, and will return home a far more efficient servant of the hospital than he or she ever was before.

A good many superintendents, quite ready to ask you for money to spend for the betterment of the hospital in any one of a thousand ways, are diffident about asking for money to pay for a trip for themselves, and unless the question is raised by others, will not present it to your board. And yet there is no money that you could spend that will bring you in so great return in efficiency.

Don't you think you would better suggest this convention to your superintendent, and relieve him or her of a rather delicate dilemma? It would be nice for your board to pass a resolution assigning your superintendent to this convention, and appropriating the money to pay expenses.



Ambulance donated the American Red Cross Society in Paris.

#### A Luxurious War Ambulance

Mrs. Barclay Warburton, of Philadelphia, recently raised the money, in connection with the Emergency Aid Committee, of Philadelphia, for an automobile ambulance and it is now on the way across the water as a gift to the American Red Cross Society in Paris.

The car was made by the Autocar Company, near Philadelphia, and is perhaps the completest hospital ambulance ever built, containing water tanks for hot and cold water, a complete hot water heating apparatus, drawers and compartments for medical and surgical supplies and instruments. It has room inside for six wounded men in hangers and for eight who may sit in comfortable chairs.

A \$750,000 hospital is to be built at Canton, China. Dr. Lew Chee, of Pekin, a graduate of Jefferson Medical College, has been inspecting the hospitals of the United States and getting pointers.

THE CHILDREN'S HOSPITAL OF VIENNA<sup>1</sup>

**Institution Presided Over by Professor Pirquet Is a Splendid Example of Modern Child Care—Some of Its Departments**

The University Children's Hospital of Vienna, built in 1911, is under the direction of one of the foremost pediatricians in the world, a man well known on this side of the water, Professor Von Pirquet, who has as assistants a dozen of the best men in Europe, men trained in all the celebrated clinics. Hence it goes without saying that the hospital can boast the very latest and most approved methods of practice and the best equipment to be found anywhere.

The hospital (Fig. 1) covers a space of 3,741 square meters, and cost \$340,000.00. It consists of one spacious



Fig. 1. Exterior view of the Vienna Children's Hospital.

building four stories high and two pavilions, one of which is named the Escherich Pavilion, after the man who planned the institution, but who did not live to see his dream realized. The other is named after Professor Widerhofer, the great pediatrician of the St. Anna Spital.

The hospital is divided into the following nine stations: (1) Sauglings, or Infant Station. (2) Tuberculosis Station. (3) Internal Diseases. (4) Diphtheria. (5) Scarlet. (6) Box or Isolation Station. (7) Medicopedagogical. (8) Pharmacologic. (9) Newborn Station.

There are also the radiographic and the cardiographic stations, a dispensary with special rooms for surgery, orthopedics, nose, throat and eye cases; and there is a small laboratory off of each station, as well as a general laboratory with chemic, histologic and bacteriologic departments.

## INFANT STATION

This station consists of five rooms connected by doors leading from one to the other. There are also separate entrances from the outside to each room, so that it can be entirely isolated if necessary. The station is provided with a bathing room, a small laboratory, and rooms for attending and wet nurses. In addition to these there is an ordinary kitchen upstairs and a milk kitchen downstairs.

Two of the five rooms are kept only for cases of an infectious character, such as tuberculosis and syphilis, the

<sup>1</sup>THE MODERN HOSPITAL is indebted for the material in this paper to the Archives of Pediatrics, New York, and also for the courteous loan of the illustrations. The author of the paper is Dr. A. Levinson, Stellvertretender of the Hospital.

other three being set aside for general diseases. Of the rooms, which are of unequal dimensions, the larger contain four beds each and the smaller two. The floors are covered with linoleum; the lower half of the walls with porcelain wainscoting. In each room there is a stove used for heating whenever the heat from the basement is insufficient. The large rooms are supplied with a small writing desk, a box for drugs, and a combination table and cabinet. The table is used for the examination and treatment of children (the opening of abscesses and the like). One compartment of the cabinet beneath the table is used for gauze, cotton, catheters, etc.; the other is used for charts, writing paper and other record material. The beds occupy the four corners of each room. They are placed about eighteen inches away from the radiators and the same distance from the windows.

The beds are of iron, and above each is an iron rod for a curtain against flies and light. Suspended from the center of the rod is a long silk ribbon, red if the disease is infectious, blue if it is not. Playthings are attached to the ribbons, not only for the child's amusement, but as a barometer of the patient's condition.

Under each bed is a white enameled pail for the patient's stool, which is to be left for the inspection of the physician. Beside the bed is a white metal case with glass windows, which contains all articles for the patient's individual use.

This case has three shelves, which contain, on the lower shelf, a small oil cloth used when the child is taken for examination, a diaper, to spread over the cloth for examination, and a bathing cloth; on the middle shelf, three bowls, the smallest for washing the



Fig. 2. Bed in one corner of larger room of infants' station, showing the divided curtain, the pail for stool and the case which contains everything the child needs.

eyes, the other two for the body, and a brush; on the upper shelf, three medicine glasses, a small dish containing glass rod for salve, and a nickel-wire tongue depressor, a nipple holder and nipples, a box of lanolin, and a box of powder. Inside of each case is a small thermometer in its holder. (Fig. 2.)

In addition to the ordinary beds there are two incubators for prematures, consisting of ordinary bathtubs

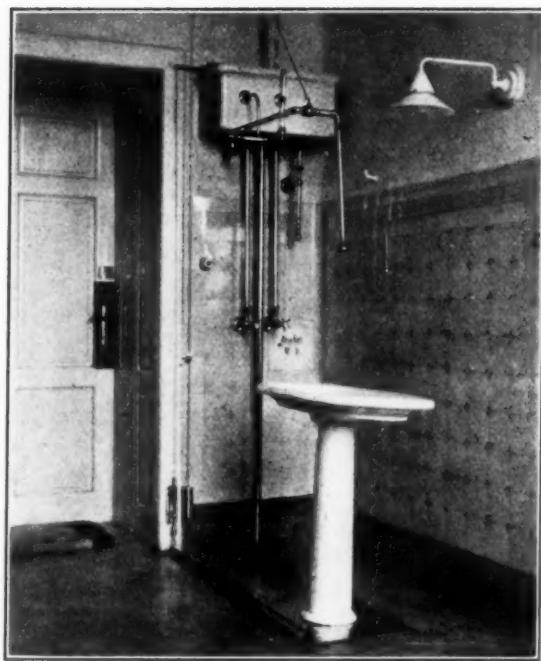


Fig. 3. Bathing slab, with douche nozzle and apparatus for regulating the temperature of bath water.

with double walls, the space between to be filled with warm water. The water is changed often enough to maintain the required temperature, as shown on an attached thermometer.

The bathing apparatus shown in Fig. 3 is a double one—an ordinary bath tub, and a larger apparatus for giving showers.

The chart system used in the infant station is quite unique. Besides the main history and examination chart there are special charts that trace the course of the disease. Various signs and colors serve as symbols. The character of the stools is marked down by signs, | = normal, / = pulpy; : dyspeptic,  $\omega$  mucus, — fluid, [=] = soap-stool. The nourishment is marked by colors: red indicates mother's milk; blue, cow's milk; yellow, eiweiss; brown, carbohydrates; black stripes, soup; globules, fat; green, vegetables. The volume of nourishment is written in one line, the corresponding calories in the next line, a ready table being used for that. The same chart contains the temperature, the tuberculin reaction, and any medication administered or any operation performed. Thus one glance at the chart is sufficient to give one an idea of the temperature, the weight, the diet, the stool, the tuberculin reaction and the general condition of the child. The doctor making rounds does not have to go to the trouble of reading the handwriting of different people. The colors tell the whole story. (See chart, Fig. 4.)

Although there is no one special rule for feeding infants, each case being treated according to its indications, there is a certain method which is followed in the infant station of the Von Pirquet Hospital. Two or three wet nurses are kept on hand all the time (Wassermann being made on them before they are admitted). They nurse their own children and the milk that is left in the breast is

withdrawn by pump and given to the other infants. The premature infants are taken care of first and what remains is given to the others. In addition to the immediate supply of mother's milk supplied by the wet nurses, there is a supply of conserved woman's milk made up in accordance with the method of Meyerhofer ( $\frac{1}{2}$  cc. H<sub>2</sub>O to 1 liter of milk). Infants that are not fortunate enough to get as much mother's milk as they need receive a modification of cow's milk, the formula being figured according to the caloric value, taking as the standard Heubner's rule. The carbohydrates are, for the most part, in the form of Nährzucker, the use of other forms, such as Keller's malzsuppe or phosphotine, depending upon the condition of the stool. Infants that do not do well on diluted milk, or cases of intoxication, are given Finkelstein's eiweissmilch prepared at the hospital. Seldom is larasan or other modifications of eiweissmilch used. The terminology used in intestinal disturbances is that of Finkelstein.

#### NEWBORN STATION

When does the obstetrician discharge the newborn from his care and give it to the pediatrician? In other words, at what age is the pediatrician to begin treating or looking after the child? This question has been solved in the Vienna hospital. Professor Schaut, of the obstetrics department, and the late Professor Escherich recognized the fact that the newborn child, with all of its characteristics and peculiarities, belongs in the realm of pediatrics, and it

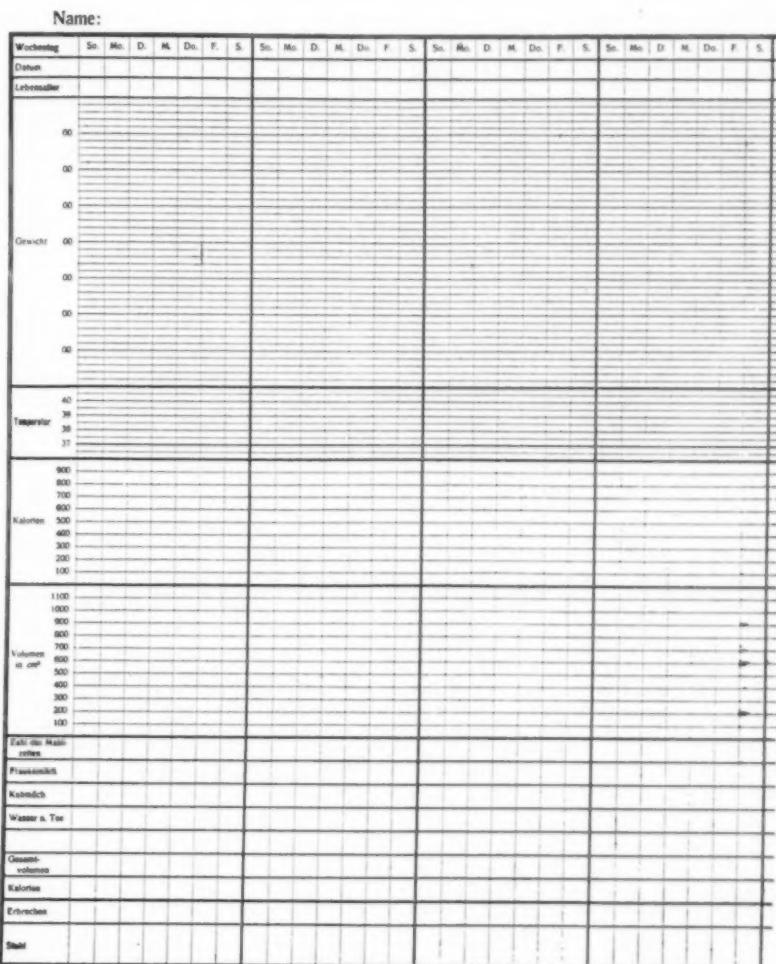


Fig. 4. Reduced facsimile of the chart used in Prof. Von Pirquet's wards. This shows at a glance the weight and the temperature curves, the calories in the food, the volume of food, the number of feedings, the kind of food and the occurrence of vomiting and stools. By a system of characters and the use of colored inks, the physician can tell at once just what the child has received and his condition.



Fig. 5. Outside corridor in box station. The nurses have access to the boxes through doors opening onto the corridor.

behooves the pediatrician to take care of it when it is sick and to study its physiologic characteristics when it is well. The best time to begin, then, is directly after birth. Recognizing this fact, they established a newborn station in the Frauenklinik under the direction of a pediatrician who makes newborn children his specialty. The newborn station, although not located in the same building as the infant station, is considered part of the children's clinic. A large amount of material is available, approximately 70 cases a week. The infants are put in a square wire basket attached to the bedside of the mother. In case of infection, however, the children are isolated in special rooms. The infants are observed daily. Physical, chemical and bacteriologic examinations are made and a good deal of information gained thereby, studies having been made in this department on *icterus neonatorum*, albuminuria, sepsis and many other abnormal conditions.

Newborns that have been in the station for ten days and are still sick are transferred to the *Säuglings* (Nurslings) Stations, where their treatment is continued.

#### THE ISOLATION OR BOX STATION

How can we avoid the transmission of infection from one child to another? This has been the great problem in all children's hospitals. Patients affected with the same disease can safely be placed together, but what is to be done with the cases where no positive diagnosis can be made? Isolation answers the question, but is it possible to have an isolation room for each child? As soon as you put two in the same room you expose one to the other's disease. Even where the diagnosis of an infectious disease is clear, who knows if there is not a combination disease; if the child with diphtheria who coughs is not going to develop measles or whooping-cough and infect others?

This big problem has been solved to a certain extent in the Wiener Kinderklinik by means of the Box or Isolation Station. The station consists of twelve glass compartments, or boxes, that fit air-tight into iron frames securely attached to the ceiling and floor. (Fig. 5.) Each box is  $2\frac{1}{2}$  meters wide,  $4\frac{1}{2}$  meters long and 4 meters high. One side of the thick glass serves as a wall for one box and the other surface as a wall for the next one. Adjoining each three boxes there is a service room where the medical supplies and operating tables are kept. The

twelve boxes are arranged in two rows separated from each other by a distance of 2 meters. The intervening space serves as a passageway and makes it possible for parents and students to view the patients without coming into contact with them.

Each box contains a heating apparatus, an iron case for the patient's laundry, brush and comb, a stethoscope, gowns for physicians and nurses, hand solutions and towels. One nurse can attend the patients of all the boxes. All she has to do is to put on a new gown as she enters the box, and to wash her hands as she leaves it, leaving her gown behind, of course. As a rule, however, there are two or three nurses on each side to facilitate service.

The advantages of the box system, which are many, can be summarized into the following points:

- (1) Complete isolation can be carried out without the need of much space.
- (2) Two cases having two different diseases may lie in adjoining boxes without the transmission of infection. (In this hospital not more than one or two cases a year are carried over from one box to another.)
- (3) Many patients can be attended by one nurse, as they can be watched through the glass walls.
- (4) Parents can see their children and speak to them and yet not come into contact with them.
- (5) Teaching can easily be carried on.
- (6) A patient with one disease may leave the box and a patient with a different disease may be brought in an



Fig. 6. Corridor running between cubicles of box station. Parents and students may see the patients without coming into contact with them.

hour later without danger of transmission. All that is necessary is that the floors be wiped and the walls, which are of glass, be washed in an antiseptic solution, something that cannot be done in a room with painted wooden walls.

#### THE MEDICOPEDAGOGICAL STATION

There is a medicopedagogical station, where backward children are studied and where attempts are being made

to connect certain diseases that develop only in adult life, with certain mental phenomena that manifest themselves during childhood. The patients in this department are sent there by parents, by the juvenile court and other child welfare agencies. Figure 7 shows a group of such children. Psychic tests are made according to the methods



Fig. 7. Group of patients at the Medico-Pedagogical Station. From left to right: lower row, (1) suicidal tendencies; (2) aphasia; (3) weakmindedness. Middle row: (1) moral defect; (2) hysteria; (3) neurasthenic. Top row: (1) ponomania (wanderer); (2) neuro-path.

of Binet, Simon, Ebbinghaus, Bourdon and Marselon, and after a diagnosis is made a course of treatment is prescribed for home application; if the home surroundings will not admit of favorable treatment, the child is removed to a more promising environment—the country, perhaps, away from the deleterious influences. If there are remediable physical defects, treatment is applied in the institution.

#### Overcrowding of the State Hospitals

The annual report of the New York State Charities Aid Association calls attention to the fact that the state hospitals for the insane are so overcrowded that the health and chances of recovery of the patients are endangered, and makes a plea for the immediate construction of three additional hospitals. The fourteen hospitals in the state now hold 33,358 patients, although they were built to hold only 27,463. The total overcrowding is 5,895, an average of 21.4 percent, and the Manhattan Hospital, on Ward's Island, has 1,408 more inmates than it should have, an excess of 39 percent.

The Zurbugg Memorial Hospital, at Riverside, N. J., was officially opened by Mrs. Zurbugg with the handing of the keys to Dr. Alexander H. Small, Riverside, chief surgeon. The Zurbugg Memorial Hospital is a monument to the late T. Zurbugg, for years head of the Keystone Watch Co., who left \$250,000 to establish the institution. Mrs. Zurbugg has announced that the present quarters represent only the beginning of the work planned by her husband. The hospital in the remodeled mansion of the Zurbuggs will later be converted into a nurses' home, when a new hospital capable of caring for the sick of Burlington County will be erected on grounds adjoining.

## CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.  
*Army Medical Museum and Library, Office of the Surgeon-General  
United States Army.*

FRANK B. MARTIN, Domestic Literature.  
*Army Medical Museum and Library, Office of the Surgeon-General  
United States Army.*

American Women's War Hospital. *Lancet*, London, 1915, No. 4772.

A new ward, to accommodate thirty patients, has been made possible by the utilization of the fine riding school at Paignton. This addition, to be called "St. George" ward, will bring the capacity of this hospital up to 230.

Hospitals in Paris. Special Correspondence, *The Nursing Times*, Jan. 30, 1915.

This article discusses most interestingly Val de-Grace, the most important military hospital in Paris, and describes the operation of the hospitals which have been organized in some of the large hotels. The Women's Hospital Corps has established a 100-bed hospital at Claridge's Hotel, the British Red Cross occupies the Hotel Astoria, and, in fact, says the correspondent, "Paris is crammed with hospitals: one or two in every street, and military funerals are of daily occurrence."

A German Hospital on Wheels. *The Nurse*, Feb., 1915.

A most interesting description of an ambulatory base hospital composed of railway carriages in use in the German army. The volunteer hospital train "Duchess Victoria Louise" is an all-steel train equipped by the Red Cross Association of the Duchy of Brunswick. There are 300 beds in the train, has laundry facilities for 600—so that it can discharge and receive patients without waiting changes of linen. The train not only contains operating rooms, sterilizers and water heaters, but also store rooms for linen and food supplies, executive offices for the head surgeon and a lounging room for surgeons and nurses.

The Relations of the Hospitals for the Insane to the Care of Alcoholics (Die Stellung der Irrenanstalt zur Trinkerfürsorge). Dr. J. Schweighofer. *Oessterreich. San.-Wesen*, Wien, 1914, XXVI, No. 41.

Hospitals for the insane receive only such alcoholics as are demented. The patients who are sent to such institutions may be divided into three groups: (1) the morally defective drunkards with criminal tendencies, in whom alcoholism forms the smallest part of their defects, but leads usually to criminal actions; (2) the psychopathic drunkards, who show marked moral defects; (3) patients in whom insanity was caused by alcoholism and who may be cured or at least improved by total abstinence. The first group of patients ought not to be admitted in institutions for the insane. They bring their prison habits with them and are a constant danger to their fellow patients and to the nurses. The second class of patients are the victims of a weak character. They can be cured, but

they should not be returned to their former surroundings. They should select a new occupation and become members of some abstinence society. The third group of patients can usually also be cured. But instead of sending all these alcoholics to hospitals for the insane, it would be best to establish special institutions for alcoholics where each case could be better studied and treated individually.

**Annual Report of the Medical Officer of the Local Government Board for 1913-14.** *Lancet*, London, 1915, No. 4773.

Dr. Newsholme, the medical officer of the Local Government Board devotes considerable space to the remarkable activity displayed by local authorities and voluntary agencies since last August, in promoting maternity and child welfare work. The safeguarding of child-life at its origin, so necessary in peace, becomes a thousandfold more urgent in time of war. England has awakened to her waste of infant and child life and is organizing maternity centers for intensive antenatal preventive work throughout the kingdom. In the north and south, east and west, infant welfare work is being done with ever-increasing earnestness.

**Liverpool Merchants' Mobile Hospital.** *British Med. Jour.* London, 1915, No. 2825.

The Liverpool merchants have provided funds for the construction of a unique field hospital. It is to contain all the latest contrivances of an up-to-date stationary hospital and its light wooden shell will permit of its removal and reerection within twenty-four hours. There will be eight pavilion wards, each to accommodate twenty-six patients. All the buildings will be connected by covered ways. A bath pavilion with fourteen baths is provided. This pavilion will have a room on one side for the removal of soiled clothing and on the other side a dressing room with clean clothes store attached. The Mobile Hospital is to be maintained as near the firing line as practicable, and four acres will be necessary for its accommodation.

**A Hospital on Wheels.** From *Deutsches Journal*, N. Y., Feb. 15, 1915.

A war correspondent describes one of the hospital trains, which, during last December, brought the wounded from the battles in Poland into the interior of Germany. The train was composed of 35 cars in all and in its completeness of equipment was a veritable hospital on wheels. Twenty-five cars with ten beds each received the wounded soldiers. The operation car contained also the pharmacy and a sterilizing and instrument room. One car carried the central lighting and heating plant. Two sleeping cars were provided for the surgeons, nurses and the hospital corps men. Other cars carried the provisions, kitchen, baggage, etc. All cars were connected by bells and telephone with the surgeon's and nurses' rooms. This hospital train was admired wherever it passed and when it stopped at Magdeburg the chief surgeon charged a fee of  $\frac{1}{2}$  mark to visitors. He thus collected 2,300 marks, which amount was turned over to the Red Cross.

**History of Public Health in Dublin.** Cameron, Sir Charles, *Lancet*, London, 1915, No. 4773.

The first trustworthy information relating to health conditions in Dublin dates from 1798. In this year, the Rev. James Whitelaw made a careful survey of the city and reported the tenements occupied by the working classes in a shockingly unsanitary condition. Little advance could have been made in the next half century, for

in 1845 Dr. Thomas Willis writes of the working classes of Dublin as "sunk into that state of abject misery for which there is no parallel in any country in Europe." Some sporadic interest in the health of the city was taken by the municipal authorities during the twenty years that followed, and finally in 1864 the first officer of health, Edward Dillon Mapother, was elected. He was succeeded by Sir Charles Cameron. Mortality statistics begin to approach accuracy in about 1879, during which year the death rate from all causes was reported to be 37.5 per 1,000. Sir Charles Cameron details the various steps taken to improve housing conditions in Dublin and outlines the various activities for the improvement of the sanitary condition of the city. The death rate has gradually declined and in 1913 it reached its lowest point, 20.3 per 1,000.

**The First Seaside Heliotherapeutic Station in Italy (La prima stazione elioterapica marina).** *Tubercolosi, Milano*, 1914, VII, No. 4.

Since Dr. Rollier at Leysin, Switzerland, obtained such remarkable results by heliotherapy in the treatment of surgical tuberculosis, sanatoriums for sunlight treatment have been established in several countries of Europe. The first institution of this kind in Italy was lately founded by the Genoese Society for the Prevention of Tuberculosis. As this sanatorium is located on the seacoast, it has an advantage in that the marine treatment can be combined with heliotherapy. The sanatorium has a vast veranda, open towards the sea and protected from the north wind. Here the little sufferers are daily exposed naked to the healing influence of the sunlight. The sanatorium is connected with the dispensary maintained by the Society in the City of Genoa. Only children between three and fifteen years, and only those belonging to poor families are received for treatment.

**The Instruction and Choice of Suitable Nurses for District Work in the Home, Tuberculosis and Infant Welfare Departments.** Mary A. Mackenzie, R. N., *Public Health Journal*, Feb., 1915.

The author divides her topic into: (1) Ideal Candidates and Ideal Instruction; (2) Shortage of Suitable Material, and (3) Suggested Changes. Cultured, educated women, Miss Mackenzie thinks, who have seen life, and who know something of its temptations and disappointments, make the best nurses for this kind of work. They must have initiative and be able to "make something else do."

The average nurse, thinks the author, makes nine thousand beds during her training, and unconsciously the hospitals seem to be bidding for that kind of routine nurse instead of teaching her many things she will need to know when she must rely on herself alone. Miss Mackenzie pays a high compliment to the Victorian Order of Nurses of Canada, and in closing her most interesting paper suggests nurse training for home and welfare work to include: (1) Supervised practical work on the district; (2) observation of work in allied branches and societies, e. g., associated charities, settlements, child welfare, tuberculosis, factory, etc.; (3) lectures by experts on sanitary science, all branches of public health nursing, social service work, with field work always where possible.

**Lighting the Operation Room in Small Hospitals (Ueber Operationsalbeleuchtung fur kleinere Anstalten).** Heilanstalt, Leipzig, 1914, IX, No. 24.

Most hospitals now use electric light if it can be procured, because it is easily handled, develops little heat, and does not vitiate the air. As compared with gaslight

this is a great advantage where chloroform is used as an anesthetic. Gaslight, under such conditions, develops noxious gases which are harmful to the respiratory tract. At present there are two systems of electrical illumination, one by which the whole operation room is lighted up, and the other an apparatus invented by Krönig and Siedentopf which concentrates the light on the field of operation and especially on the body cavities. But this apparatus is very expensive and requires a strong current, and is therefore not suitable for a small hospital. Zeiss in Jena has lately constructed a smaller apparatus which combines the arc-light, lens-system and illumination mirror on a movable stand. The source of light is an arc-lamp which burns one and one-half hours and consumes about 4½ amperes. The carbons stand at a right angle to each other; the positive carbon has a horizontal, the negative a vertical position, so that the best possible use is made of the crater of the positive carbon as a source of light. The illuminated field has a diameter of 28 cm. with a distance of about 2½ meters from the external lens. In front of this lens is a mirror which can be placed in any position so that the light can be thrown downward from the lens in any desired direction. The stand is on rollers and can be moved about at will. This apparatus has given general satisfaction wherever used. The price is at present mk. 370.00 (\$92.00), but it will be sold at a lower price as soon as the sales justify a reduction.

**Establishing a Temporary Hospital Under Emergency Conditions (Amenagement d'un hôpital temporaire par des moyens de fortune).** Dr. J. Gourdet. *Presse méd.*, Paris, 1914, No. 76.

The author, who is a surgeon in the French Army, was ordered to establish a temporary hospital at Pontivy. He converted the college building into a hospital. It had at first only 330 beds, which were requisitioned from the citizens, but as the number of wounded gradually increased to more than 500, and beds could not be obtained, Dr. Gourdet had a large number of folding cots made, which proved very practical, especially as they could be folded and placed out of the way when not used. A large hall with very high windows was converted into an operation room. A sterilizing room was established by putting in a partition in the same hall. Acetylene lamps, such as miners carry, were used for illumination at night. To prevent infection from a defective floor, the floor was covered with linoleum. A variety of apparatus is described which, in the absence of the usual furnishings of a hospital, was improvised by the author. Instead of absorbent cotton, which had become scarce, he used gauze tissue (tissue éponge) for dressing wounds. He considers this material superior to hydrophile cotton, as it has greater absorbing power.

**Sanatoriums for Tuberculous Children (Ueber Heilstätten für tuberkulöse Kinder).** Dr. C. Kraemer. *Med. Corr.-Blatt. d. württemb. ärztl. Landesver.*, Stuttgart, 1914, LXXXIV, No. 43.

The idea that high altitude has special advantages in the treatment of tuberculosis is erroneous. Statistics show that sanatoriums in low regions obtain just as good results as the institutions in Davos, Switzerland (1550 meters above the sea). At the sanatorium in Edmundsthal, near Hamburg, the tubercle bacilli disappeared in the sputum in 24 percent of the patients, while in Davos the percentage was 24.5. But in the former sanatorium the average duration of the treatment was only 89 days, while in Davos it was 198 days. The author holds that the tuberculin should form an important part in the sana-

torium treatment of tuberculosis. The tuberculin treatment can only be properly carried out in a sanatorium. As a school is usually connected with the institution the children do not lose any time. The expenses for the parents are small. Poor children are received without pay in all the German sanatoriums.

**Sanitary and Preventive Medicine Education Among the Chinese as an Important Part of the Work of the Medical Missionary.** Jas. Butchart, M. D., Nanking, China. *The China Medical Journal*, November, 1914.

Dr. Butchart lays down two principles as the objectives in medical work: (1) the greatest good to the greatest number, and (2) quality rather than quantity. The problem of being overcome by stress of too much work can be overcome by choosing what the medical director wants to do himself and then turning the rest of the work over to Chinese helpers, who are capable and glad to do it.

The ways and means of accomplishing sanitary and preventive medicine education are, through the cooperation of the Y. M. C. A., through charts and through lectures on the prevalent diseases of the Chinese, such as tuberculosis, with moving pictures and slides covering the questions of housing, sewage disposal, water supply, infectious diseases and pests of all kinds (such as the fly, mosquitoes, bed-bugs, fleas, lice and rats) and their causative relation to disease.

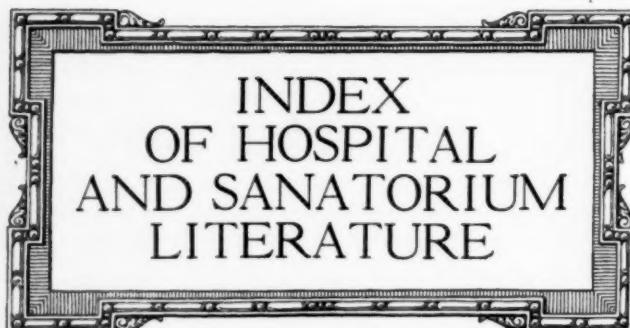
**The Home Hospital.** William Parr Capes. *The Public Health Journal*, Feb., 1915.

That proper housing conditions and wages are the most efficient weapons with which to fight tuberculosis, is the subject of the author's very interesting paper. Mr. Capes explains the work of the New York Association for Improving the Condition of the Poor. In the East River homes, the model tenements of New York City, there has been established a Home Hospital for twenty families which have been dragged down into poverty by tuberculosis. The principal object of the home hospital is "to preserve the home." It has proved to be perfectly practicable to treat families in which there is tuberculosis as a family unit without apparent danger of spreading the infection to well members of the family. The infected individual sleeps out of doors on the balcony, is carefully fed and isolated as far as possible from the well members, and the well members are encouraged to spend the days on the roof, and return to their apartments only to eat and sleep. The author gives a table of interesting statistics, showing the results of the Home Hospital. During the last two years 46.6 percent have been apparently cured, 35.5 percent have been able to arrest the disease, and 17.7 percent have been much improved. The average living expenses of the families under care last year were as follows:

	Average Daily Expense per Family	Percent.
	1913-14.	1913-14.
Rent	\$0.792*	33.16*
Food	.929	38.9
Clothing	.233	9.75
Fuel	.050	2.09
Lunch	.051	2.13
Dues	.055	2.30
Medical and surgical supplies	.071†	2.97†
Ice	.012	.50
Carfare	.045	1.88
House supplies	.056	2.34
Miscellaneous	.094	3.93
Totals	\$2.388	99.95

\*Includes expense of heat and light.

†Includes expenses of paper napkins, sputum boxes, and all medical and surgical supplies.



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**"Ya-li"—Yale in China, an American College, Hospital and Training School.** *Nurse, Jamestown, N. Y.*, 1915, II, 107-110.

Eleven hundred years before Christ there was a college of physicians in Egypt in receipt of public pay and regulated by law as to the nature and extent of their practice. This college belonged to the Sacerdotal Caste, and women practiced medicine there. According to pliny, as the physicians were paid officers of the state, they were required to treat the poor gratuitously. These physicians, however, were not obliged to attend the sick in their own homes or at their private consulting rooms except in cases of extreme need, and so it is presumed that there were official houses to which the poor went at certain times, and which corresponded to the out-patient departments of our hospitals, or, even more probably, to our dispensaries.

The Union Benevolent Association, of Grand Rapids, Mich., has recently invited bids on a nurses' home to cost approximately \$80,000, this building to be erected in connection with the \$500,000 hospital which the association has had in course of construction for several months. It is expected that both structures will be completed this year.



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#### First Impressions

Nothing helps or hinders a hospital and its work more than the first impressions received by the patient upon being admitted. This theory is too often lost to sight and mind in the pressure of daily routine in the busy hospital.

Visiting nurses are able to judge of the thrift and cleanliness of people inhabiting an apartment house by the appearance of the entrance. The casual observer walking through the more crowded tenement districts understands the character of the dwellers therein from what he sees of the entrance to the tenements.

The visitor to any home is welcome and happy or otherwise in accordance with his first impressions.

The good business man understands the necessity for favorable impressions if he is to be successful. Then how much more the hospital to which its patients come reluctantly and with fear and trembling.

Its entrance should be pleasant: possibly it is as well that it should not be too ornate lest it be overpowering. It should be pervaded by a homelike air that yet gives the impression of strict attention to the details of business, and it should not be inhospitable—that is, an interested attendant should always be in evidence.

A young Italian woman applied for admission to a hospital, but because she saw no one outside the door to meet her upon her arrival there, she reported back to her family that there was no one at home at the hospital and she supposed she could not have her operation done.

What is true of the entrance to the hospital is equally true of the hospital ward where the patient should be met by the nurse with a spirit of cordiality and cheerfulness that would at once remove fear and establish confidence. This cordiality and cheerfulness need not be of the exuberant kind, which is revolting to a sensitive patient, and at once brands itself as affectation, but just the kind that conveys to the patient, without words, the idea that since he *had to come*, the nurse is glad to be there to help him.

There is a certain strength emanating from the dignified nurse who meets her patient in a businesslike, cordial manner that soothes while it strengthens and augurs well for the relationship to be established between the nurse and her patient.

If these first pleasing impressions are thus effectual it would seem wise to cultivate the talent for making them so.

A pleasing personality is a wonderful asset for a nurse. She makes a good impression which, whether she has any other qualities for sustaining it, will last until she has had time to get her bearings and establish herself upon a more substantial basis.

While the pleasing personality is a good means for making a promising beginning, however, it cannot be depended upon to carry a nurse through a great effort; for this she will have to return to the qualities which go to make a good woman and a good nurse; for the development of these she has undertaken her training. Her degree of success will depend upon several factors, such as her breeding, her intelligence, her education, her love for humanity and her desire to be useful. She may love her fellow-men and wish to do them service, but if she is wanting in intelligence and that cultivation which is called education, she will fall short of the realization of the highest success. Again, if she possesses these latter qualities and "speaks with the tongue of angels, and have not charity, she is but tinkling brass."

While the power to make a good impression does not necessarily make a good nurse, it is the part of duty as well as of expediency that she shall be careful of first impressions upon her patients, whether in the home or in the hospital.

#### The Object of the National Organization for Public Health Nursing

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There is no more splendid record than that of the rapid growth of hospitals and other institutions for the care of the sick in the United States. In comparison with these provisions, however, the American public has been surprisingly slow to recognize its similar obligation to care for those who, for one reason or another, cannot or will not go to hospitals, and, therefore, must be provided for in their homes. Yet Dr. Osler tells us that not more than ten percent of the sick population is cared for in institutions. Considering only the nursing aspects of this public duty, and making allowance for the small proportion of the remaining ninety percent who can afford to employ graduate nurses at \$25 per week, there obviously remains a large majority of the sick to be cared for either by "practical nurses" (untrained) or by skilled visiting nurses. Had this estimate been made and published fifteen to twenty-five years ago, the history of visiting nursing in the United States would certainly have been different, but the fact remains that as late as 1901 there were only 53 associations and 136 nurses engaged in this kind of work throughout the country, and a "municipal" was a barely known and quite untried public servant.

About that time what is now generally known as the public health campaign took definite form and with its development came a steadily increasing demand for visiting nurses. Now there are 2,066 associations and 4,895 nurses, and every mail brings notice of others to Miss Yssabella G. Waters, to whom we are indebted for these figures. Moreover, there has been a proportionately rapid and far-reaching expansion in the scope of the nurses' work and of their responsibilities. For example, whether in the movements against tuberculosis and infant mortality, or in behalf of school hygiene, or industrial health and safety, or medical social service, the qualified visiting nurse has been almost universally regarded as an indispensable agent and by many "the strategic object in the public health campaign."

This is true for three definite reasons. First, no amount of scientific knowledge in scientific terms will greatly increase the popular intelligence regarding the means of preventing disease unless supplemented by interpretation which *all* the people can understand. Generally speaking, those who need this knowledge most cannot be reached

by lecture or the printed page. While the moving picture is a powerful ally, it is still indisputably necessary to reach the individual and the family before there can be any assurance that the message has been understood or is being practiced.

Second, no amount of administrative control by boards and bureaus and commissions can or will really overcome individual ignorance or stupidity or indifference regarding health measures unless supplemented by a follow-up agent whom the people will welcome, respect and heed.

Third, the visiting nurse is most logically and economically that interpreter and follow-up agent. This is peculiarly true of her because she not only tells them what to do, but she shows them how to do it. Florence Nightingale said years ago, "the only word that sticks is the word that follows work."

The nurse's work in the home is the chief reason for the welcome she invariably receives. Herein lies the explanation of the fact that the present demand upon the public health nurse is becoming so varied that it is sometimes difficult for her to discriminate between essential duties and attractive opportunities for larger service. She is still the "sick nurse," but she may also be expected to act according to the demands of the community which she serves, as a school and baby welfare nurse, or a tuberculosis nurse, or health and hygiene teacher, or visiting dietitian, or gatherer of vital and morbid statistics, or social worker and relief agent, or sanitary inspector, deputy health officer, attendance officer, county bailiff, member of the local board of health or board of public welfare.

In the light of the foregoing statement (which would certainly be unpardonably presumptuous if the writer had departed in the least from actual facts) it goes without saying that it is not enough for a public health nurse to be a good, faithful, plodding caretaker of the sick, plying her daily rounds among the poor. She is now required to know and understand community health problems, laws and ordinances. She must know the agencies provided at public and private expense for the care and protection of sick and otherwise dependent people. She must be capable of doing her part in spreading the gospel of health, hygiene and sanitation, and securing public support for various programs of health education and protection.

The boards of directors of visiting nurse associations are no longer content quietly to administer a grateful charity in their community. They find themselves, as well as public health officials and departments of education and other officers of the community, involved in questions of pure milk supply, polluted streams, bad housing, appropriations for open-air schools and classes for defectives, and numerous other matters of civic interest which intimately relate to the work of their staff nurses. They more often than not become the experimenters and demonstrators of these public benefactions. It is frequently their function to create public demand for them.

Although the decade from 1900-1910 witnessed this rapid expansion and extension of public health nursing, there had been up to that time no effort to organize and standardize the work or its administration. There were no recognized requirements for the visiting nurse. There was no collective power or influence exerted by the scattered and unrelated and, generally speaking, unacquainted workers. But in June, 1912, a national association known as the National Organization for Public Health Nursing was established. This is an organization of nurses and lay people, engaged in the actual work of public health nursing and in the organization, management and support of such work. It came into being because its founders

recognized three rather clearly defined facts, namely: "the experience data available emphasized the urgency and practical necessity for the extension of public health nursing service to a much larger proportion of wage-earners and people of moderate means than now have the benefit of the same;" 1,492 registered public health nursing organizations, publicly and privately maintained, waited for correlation and standardization of their work and its administration; and the public was waiting for reliable morbidity statistics which these organizations could furnish to statisticians through the adoption of uniform and standard record cards.

Its members, numbering over 1,500 lay people and nurses (of whom about thirty-three percent are lay people), are now working to these ends, both in their own localities and collectively. Nearly every state in the Union is represented. The personnel of its governing body is selected with three ends in view: first, to represent all varieties of public health nursing service; second, to represent all sizes of communities; third, to represent all sections of the country.

The association helps boards of directors by uniting in common interest members of boards all over the country, who recognize the work of the public health nurse and see in it both an opportunity and obligation to give assistance to the community as well as to the needy sick individual at home; it helps each board to convince its community of the need of public health nursing; it shows them how to operate an organization for public health nursing; it furnishes them with standards of nursing service and cooperates with them to maintain a high order of efficiency; it gives advice on any problems connected with the organization and administration of a public health nursing service; it assists them in finding well-trained executives to organize and develop their work, and suitable nurses for their staffs.

It helps nurses by furnishing them with specific information regarding methods of procedure in public health nursing, and cooperates with them in establishing and maintaining these methods; it furnishes them with standards for efficient work and points out opportunities of extended usefulness; it advises them on any problem connected with their nursing service and helps them adjust possible difficulties; it directs them in their efforts to secure proper education and experience for public health nursing service; it acquaints them with public health workers in other communities; it helps them to find suitable positions in public health nursing.

Its ways and means of serving local associations and nurses are: a central bureau of reference; an executive and traveling secretary, who is at the service of any society or community in need of advice, information and assistance in matters pertaining to public health nursing; uniform record cards; its magazine, *The Public Health Nurse Quarterly*; occasional bulletins (distributed free of charge to members), containing valuable information and practical suggestions for nurses and nursing organizations; other authoritative publications (distributed at nominal cost to others than members) on methods or organization, administration and practice of public health nursing; brief, but carefully selected bibliographies.

Perhaps nothing it has done will be more far-reaching in its effects than the share the organization has taken in the development of post-graduate courses in public health nursing education (of which there are now six) which have come into existence to meet the demand for women prepared by proper education for such varied and exacting work.

The organization stands for

1, active cooperation and affiliation of all public health nursing in each community, represented by a central committee on which sits a director and executive officer of each association.

2, sound business principles and methods of administration in local associations, as distinguished from the role of "charity."

3, a fee system rather than free service, thereby extending the benefits to others than the dependent classes.

4, special preparation of nurses for public health nursing, both general and special, through

(1) post-graduate courses;

(2) undergraduate studies and practice.

It is interested in the possible development of sickness insurance with nursing care, which shall be available and acceptable to all people as an immediate and effective step toward free public health.

To this end it regards as worthy of most careful experiment the extension of visiting nursing to include hourly and household nursing (the principles of which are already clearly expressed and often practiced in every well-organized visiting nurse association), thereby making the service equal to every demand upon it from all classes of society.

It hopes for universally free public health as provided in the revised Health Code of New York State:

"Public health nurses. Each health officer or other official exercising similar duties, by whatever official designation he may be known, shall have power to employ such number of public health nurses as in his judgment may be necessary within the limits of the appropriation made therefor by the city, town or village. They shall work under the direction of the health officer and may be assigned by him to the reduction of infant mortality, the examination or visitation of school children or children excluded from school, the discovery or visitation of cases of tuberculosis, the visitation of the sick who may be unable otherwise to secure adequate care, the instruction of members of household in which there is a sick person, or to such other duties as may seem to him appropriate."

It aims to demonstrate that the public health nurse is as indispensable a community servant as the public school teacher.

#### A Modified Course of Bacteriology for the Small School

SUSIE A. WATSON, R. N.

Instructor in Theory, Peter Bent Brigham Hospital Training School for Nurses, Boston.

The importance of at least an introductory study of bacteriology early in the course of training is generally conceded. There is nothing more convincing to the young nurse, as a foundation to her technic in scrubbing up for various nursing procedures, than a set of experiments which show the ubiquity of microorganisms and the conditions favoring growth. Even with no microscope work at all, many practical tests may be made to prove desired points.

The apparatus may be very simple, and barring the microscope, inexpensive. Some of the things needed are: white plates and bowls; test tubes, which cost about \$3.15 a gross; petrie dishes, 10 mm. deep and 100 mm. in diameter, costing at retail about forty cents each; two or three platinum needles at seventy-five cents each; medicine droppers; a couple of glass flasks, and absorbent cotton.

The quantity of apparatus needed will depend upon the number of pupils working at one time. Less is needed if the teacher is to do the experiment for the whole class; but a student will usually remember her own work better than a demonstration by the teacher.

The dishes should be sterilized beforehand, as the success of the experiments depends on the care in prepara-

tion. This may be done in the operating room, or the dishes may be boiled and allowed to drain between sterile towels.

Owing to the similar characteristics of growth, and their larger size, molds make a fitting subject for the first study. Bread, well moistened, covered with a bowl or bell-jar and set in a warm place will usually show a growth of mold in two or three days. Different varieties may be captured by exposing the bread in different localities and using other foods. The difference of growth obtained from exposure before and after sweeping, and in shaking damp and dry dusters over different specimens, is marked. The effect of cold, heat, drying and air currents is easy to show.

Yeast responds equally well, its growth being indicated by the fermentation of a dilute molasses and water mixture, and the increased bulk of white sediment formed by the yeast plants in the bottom of the tube. The presence of yeast in the air is shown by exposing the molasses and water in different places and making cider from apple juice. If one has a compound microscope, so much the better, as the yeast may be identified as the causative agent. The effect of temperature and light and the age and dryness of yeast plants can be shown. After the introductory work with yeast and molds, the pupil will have some idea of what to expect from the growth of bacteria.

One will need a supply of broth and solid culture media, which may be made satisfactorily either by the teacher or the class. A simple recipe which has been used with good results is the following:

Liebig's Beef Extract.....	46.5 grains
Witte's pure Peptone.....	2.5 drachms
Salt .....	1.25 drachms
Water .....	2 pints

The solids are dissolved in water and the mixture is boiled for a few minutes, then neutralized, if necessary, with sodium hydroxide, drop by drop. Care must be taken not to allow it to become alkaline, as the heat during sterilization often causes it to become cloudy. Filter into tubes or flask and plug with absorbent cotton.

Gelatine or agar may be used for the solid culture medium. For agar the broth may be prepared as above. The agar, which has been cut in fine bits, dissolved in water and boiled for about an hour, is then added and the mixture boiled again. After cooling to about 140° F clarify by stirring in the whites of one or two eggs and boiling. Do not allow to burn. Filter while hot, using absorbent cotton covered with gauze. If one has a large enough supply of test tubes, it is easier to filter directly into the tubes, placing about 2.5 drachms in a tube. The broth and agar are then sterilized once in the autoclave, or the steam sterilizer is used, for fifteen minutes or longer on three consecutive days.

To illustrate the connection of bacteria with putrefaction, place in a set of test tubes different foods representing proteins, carbohydrates and fats. If moistened and set away in a warm place for a few days, bacterial preference may be seen by the appearance and odor. Experiments to show the effect of temperatures, boiling, freezing and acidity may be devised, using the same materials. Hay infusions may be made by steeping hay, and the effect of boiling upon spores may be noted. Broth and agar are useful principally for growing cultures from diverse places; for example, the hands, before and after scrubbing; finger nails, teeth, hair, shoes, gauze, etc. If work with a microscope is out of the question, an idea of comparative numbers may be secured from the colonies on an agar plate. In this work technic must be most careful.

The efficacy of disinfectants and antiseptics in different strengths may be tested by agar plates. The number of bacteria in samples of water may be demonstrated by colony counts, as well as milk and ice-cream samples, in suitable dilutions.

Perhaps some one on the staff of physicians and surgeons will exhibit slides of the organisms under the microscope, though to students not used to it, one hour spent in hasty glances at a succession of slides does not usually mean much.

If the instructor has access to a microscope and the skill to use it, pure cultures of any bacteria desired for teaching purposes may be secured free of charge from the Natural History Museum in New York City upon application to the curator.

A book which will be found helpful for suggestions and directions for laboratory work is "Bacteria, Yeasts and Molds in the Home," by H. W. Conn, published by Ginn & Co., Boston and New York.

#### Chemistry in the Small Training School

SUSIE A. WATSON, R. N.

Those most closely concerned with the modern education of a nurse agree that some knowledge of chemistry is an essential thing. It is a debatable question whether or not any attempt shall be made by the training school to supply a lack of this in their students. Those who have tried to teach physiology, dietetics or *materia medica* to pupils who have never studied chemistry, can affirm the necessity of at least some familiarity with chemical terms and processes. Therefore, until the training schools can demand this as a required subject for entrance, it may advantageously be given as a preliminary subject.

There are several factors to be considered when planning such a course of study. First, the length of time which can be allowed for this. In the few schools offering this as a part of their curriculum, the time varies from six to forty-five hours for the subject. Even the six-hour course seems worth while. Second, the choice of subject matter. As a guide to this, one can examine the subjects ordinarily taught in the schools of nursing, selecting the points which need a chemical explanation. The most important may be chosen according to the time allowed. Third, the method of teaching. If it is a possible thing to arrange for laboratory work by the students, the results will be more satisfactory than if one relies upon class work alone. Some study in the laboratory of a few of the most common elements and their compounds will give the pupil a better idea of chemistry than many lectures filled with strange terms and definitions. Classroom demonstrations are of necessity rapid and under the practiced hand of the teacher, and obscure points may be passed unnoticed by the looker-on.

Few hospitals have laboratories for nurses as a part of their plant, but this work may be done in any room that is easy to ventilate, which has running water, and gas connection. Alcohol lamps may be used instead of Bunsen burners, though they are not so satisfactory. Another thing invariably lacking is adequate storage room for extensive apparatus. This difficulty and likewise the expense of buying several duplicates can be overcome by assigning a different experiment to each student or group. It is seldom that two experiments call for identically the same apparatus. When student number one has finished her experiment, she can then use apparatus just returned by number three, and so on. The students attend more strictly to their own work and less to that of their neighbors than when all are doing the same.

The list of equipment given here is the minimum. It can be increased according to the space for storage, number of pupils in the class, appropriation which may be spent, nature of experiments selected, and so on.

500 cc. flasks.....per dozen, \$ 3.15  
Two-holed rubber stopper to fit.....per dozen, 1.80  
Glass tubing for bending.....per pound, 1.10  
(This comes in two-foot length, about fifty feet to a pound.)

Thistle tubes .....	each, \$ 0.25
Cake tins .....	..
Triangular file .....	.50
Scales and weights .....	10.50
Filter paper, 4-in.....	per hundred, .28
Funnels, 3-in. diameter.....	.48
Porcelain evaporating dishes.....	per dozen, 3.00
Porcelain crucibles with covers.....	each, .40
Mortar and pestle, 4-in.....	.60
Watch glasses .....	each, .20
Wide-mouth bottles .....	each, .11
Nest of breakers, 1 to 16 oz.....	per nest of nine, 2.25
Test tubes .....	per gross, 3.15
Ignition tubes .....	each, .10
Rubber stopper with one hole to fit.	
Test tube holders.....	each, .32
Horn spoons .....	per dozen, 1.50
Graduates, 10 cc.....	each, .46
Graduates, 50 cc.....	each, .96
Glass stirring rods.....	per dozen, .40
Ring stands .....	each, 1.35
Wire gauze squares.....	each, .25
Deflagrating spoons .....	each, .45
Test tube rack.....	each, .90
Test tube brushes.....	per dozen, .65
Medicine droppers .....	..

The prices quoted are those listed in the catalogue of an old and reliable firm, whose goods are of standard quality. From this would be subtracted a discount varying with the size of the order.

The choice of chemicals depends upon the experiments selected. Most of these are cheaper by the pound, and a pound lasts a long time.

There is a manual for laboratory work written by Hollis Godfrey, published by Longmans, Green & Co., the price of which is forty cents. This gives full directions for simple experiments and is especially helpful if the instructor is a nurse whose own chemistry course is in a somewhat hazy past. It also includes a list of both apparatus and chemicals called for in the text. These lists may be cut down to suit the instructor, but serve at least as a guide.

Aside from the value of laboratory work to the study of chemistry, it develops judgment, accuracy, and deftness, all of which are indispensable in our profession.

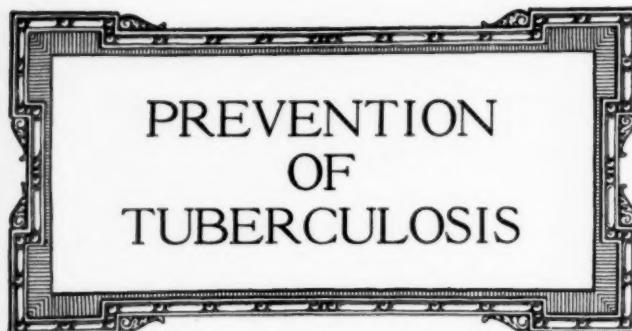
In the daily routine of a hospital, with its variety of patients, the work of a nurse, even while herself receiving instruction, is not without its immediate results. The hospital is her workshop, in which she must serve an apprenticeship, and from the day she enters it the preservation of human life and the alleviation of human suffering are, to some extent, delivered into her hands. Can a woman, in any other kind of work which she may choose for herself, find a higher ideal or a graver responsibility? Where human life and health are concerned, what shall we term "the little things"?

MRS. ISABEL HAMPTON ROBB.

Obedience to orders, founded on principle and animated by an intelligent interest, is the dominant characteristic of nursing.

MISS L. L. DOCK.

Menominee, Wis., has a new public hospital.



*Conducted under the auspices of the National Association for the Study and Prevention of Tuberculosis.*

#### "FROM FAD TO BUSINESS"

##### Red Cross Seals and the Anti-Tuberculosis Campaign

Christmas, 1915, seems a long way off, but already the American Red Cross and the National Association for the Study and Prevention of Tuberculosis are making preparations for the sale of Red Cross Christmas Seals. Returns from the sale in 1914 are only about 50 percent complete, but present indications point to a sale of over 52,000,000, an increase of 15 percent over 1913. With this encouragement, the outlook for 1915 appears to be bright.

In view of the magnitude of the Red Cross Seal sale, readers of THE MODERN HOSPITAL will doubtless be interested in a brief history of this movement and its significance to the anti-tuberculosis campaign. "From fad to business" might be an instructive and explanatory title for such a history. Beginning with the pioneer efforts of one woman, Miss Emily P. Bissell, of Wilmington, Delaware, in the fall of 1907, the sale of these holiday messengers of cheer to the sick and afflicted has grown from \$3,000 to \$450,000 in 1913, with a total of nearly \$2,500,000 realized in the eight years. The interest likewise has developed from that of a few scattered enthusiasts, who looked upon the seal as one of many passing fads, to the highly intensified, businesslike organization which at this very hour is enlisting the energy of more than 150,000 men, women and children, and which comprehends the distribution of 150,000,000 seals in almost every state of the Union and even out in far-off Hawaii and the Canal Zone.

What this movement has meant to the anti-tuberculosis campaign in the United States few people can realize. In 1908 the organized campaign against tuberculosis in this country existed largely on paper. The Tuberculosis Directory of the National Association for the Study and Prevention of Tuberculosis, published that year, listed 195 associations and committees formed for the specific purpose of preventing this disease. Including sanatoriums, dispensaries, visiting nurses, of whom there were less than 100, and other institutions, the entire number of agencies engaged in the anti-tuberculosis work in the United States was hardly 600. Of these agencies, only a few of the older private and public sanatoriums and dispensaries, and not more than a score of the associations, had enough money in their treasuries to do active work. For the most part, the organizations were working on a volunteer basis, spending their money with little or no definite plan or program.

Contrast this picture of 1908 with today's fighting force against tuberculosis. At the present time active state associations, with salaried executive secretaries or similar officers, are at work in thirty-four states—Maine, Massachusetts, Rhode Island, Connecticut, New York, New

Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, North Carolina, Kentucky, Tennessee, Georgia, Alabama, Mississippi, Louisiana, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, Nebraska, Kansas, Oklahoma, Texas, Colorado, Washington and California. In almost every city of the country with a population of 100,000 or over, and in hundreds of smaller cities and towns, the anti-tuberculosis campaign is now being operated on a business basis, with a paid officer or nurse in charge. Even into the unorganized rural communities the gospel of health is being carried by those energetic missionaries, the visiting nurses, of whom at the present time nearly 5,000 are engaged in tuberculosis work alone. Efficiency is now the keyword of the vocabulary of the anti-tuberculosis worker, and efficiency spells for him the expenditure of money in leadership, institutional and home care of the consumptive.

It is no exaggeration to say that the present highly organized and constantly growing movement against tuberculosis owes its efficiency largely and in many places entirely to the Red Cross Christmas Seal. Take, for example, the history of our state associations. Prior to 1908 there were about twenty such organizations, existing chiefly on paper. The task of financing them seemed almost hopeless. With the arrival of the Red Cross Seal, however, the problem was at once solved, with the results already indicated. Similarly one might speak of the financial benefit to the local associations for which previously it had been impossible to secure proper support.

But more than financial benefit of the Red Cross Seal has been its educational assistance. Every year during these holiday weeks millions of circulars, posters and other forms of literature on tuberculosis are distributed; thousands of lectures on this subject are given; school children by the thousands write compositions and in other ways "learn by doing" the value of tuberculosis prevention; while lodges, labor unions, business men's associations, churches, clubs, and, in fact, almost every organized group in the largest communities of the country have presented to them the story of tuberculosis and how the Red Cross Seal helps in the fight against disease. Who can estimate the value of this education in the checking of carelessness, in the awakening of public conscience, in the arousing of community effort, and in the promotion of personal hygiene?

The Red Cross Seal has apparently come to stay. It is now a recognized annual institution, through whose channels people may contribute regularly to the anti-tuberculosis campaign. Every one of the 250,000,000 seals sold in the last seven years has been or will be a real "bullet in the war against tuberculosis." Just as the soldier relies on his ammunition chest, so the anti-tuberculosis crusader must rely more and more on these little Christmas bullets, which shall be for him the shot and shell with which he will shatter the strongholds of ignorance, suffering and disease.

#### TUBERCULOSIS LAWS

##### Many Bills on Prevention of Disease Being Discussed

Bills dealing with tuberculosis are now being considered in thirty-two state legislatures, according to an announcement recently made by the National Association for the Study and Prevention of Tuberculosis.

In six states, Alabama, Arizona, California, Iowa, Tennessee and Washington, bills are being considered which call for the reporting and registration of all active cases of tuberculosis. Alabama, Connecticut, Iowa, Massachu-

setts, Pennsylvania and the District of Columbia are working for laws which will require that consumptives who refuse to observe sanitary regulations and are a menace to others may be removed and detained in hospitals. In Alabama, Arizona, California, Illinois, Maine and Missouri legislation permitting the establishment of county or local hospitals for tuberculosis are being discussed, and in California, Illinois, Iowa, Maine, Missouri and New Hampshire, state subsidies of \$3 to \$5 per week per patient are being asked for such institutions. A more or less complete reorganization of the state health work is sought in several states, especially Kansas, Michigan, Minnesota, Nebraska, Texas and Arizona. In Indiana and Alabama bills providing for full-time county and city health officers are being considered.

As an aid in furthering these and similar bills, the National Association has issued a pamphlet entitled "Tuberculosis Legislation," which contains a digest of existing laws in this field, with comments and comparisons of some of the most important ones.

#### TO FIGHT TUBERCULOSIS AMONG WORKINGMEN

##### National Movement Among Labor Unions and Factories Started

A new campaign for closer cooperation with labor unions and other groups of workingmen has recently been announced by the National Association for the Study and Prevention of Tuberculosis.

A committee has been appointed with Dr. Theodore B. Sachs, president of the Chicago Tuberculosis Institute, as chairman, to formulate plans for immediate and future action. Other members of the committee are Samuel Gompers, president of the American Federation of Labor, Washington; George W. Perkins, secretary of the International Cigar Makers' Union, Chicago; John Mitchell, of the New York State Compensation Commission, New York; Austin B. Garretson, president of the Brotherhood of Railway Conductors, Cedar Rapids, Iowa; Dr. William Charles White, medical director of the Tuberculosis League of Pittsburgh; and David R. Lyman, superintendent of the Gaylord Farm Sanatorium, Wallingford, Conn.

As the first step in the campaign, a special health bulletin has been prepared for the labor papers, and will be sent out monthly in cooperation with members of the International Labor Press Association. A second step in the plan is an investigation into the various special experiments of cooperation between workingmen and the anti-tuberculosis movement that have been carried on in this country. Such work as that of the tuberculosis relief associations in Hartford, New Haven, Meriden and other Connecticut cities; the Trades Union Sections of the Buffalo and Newark Anti-Tuberculosis Associations; the work of the Factory Committee of the Chicago Tuberculosis Institute; the Tuberculosis Pavilion of the Albany Federation of Labor; the "Overlock Plan" of Massachusetts; and other similar efforts are being studied and reported upon. These reports will be made the basis for recommendations and further study in industrial communities throughout the country.

In 843 A. D., the Archbishop of Paris wrote a letter to the Pope, complaining of the gross mismanagement of the Hotel Dieu, the great public hospital at Paris, and asked that the hospital be placed under government management. He complained that discipline among the "hirelings" of the hospital was destroyed, and that patients and servants alike complained of "their daily allotment of food."

##### Cincinnati General Hospital Opens

With formal ceremonies in the afternoon and a splendid banquet on the evening of February 20, the new Cincinnati General Hospital was opened to the public and for the reception of patients. In the afternoon the services in the amphitheater of the operating suite were simple but impressive. Dr. Christian R. Holmes, chairman of the board of hospital commissioners, in a modest and self-effacing speech presented two golden keys of the hospital to Mayor Spiegel and formally transferred control of the institution to the city. Dr. Holmes spoke of the fifteen years during which the hospital had been conceived, planned and built, and paid a glowing tribute to former mayors, former councilors and many prominent citizens who had supported the commissioners in their arduous task. He paid a tribute also to his fellow members of the board of commissioners, Harry L. Laws, James A. Green, Louis S. Levi, Charles Bolt and, until his retirement, Dr. J. M. Withrow.

The mayor in a few brief words accepted the hospital on behalf of the city and spoke feelingly of the disinterested service that had been rendered to the hospital from its inception to its completion by Dr. Holmes and his fellow members of the hospital commission.

The chief speaker of the occasion was Dr. Henry S. Pritchett, president of the Carnegie Foundation for the Advancement of Teaching. Dr. Pritchett referred to the long leadership of Cincinnati as a medical center, spoke of the medical profession of Ohio as one that had for many years led in medical science; he spoke of the need for teaching facilities in the modern municipal hospital and thought that no such institution could be successful or could achieve its highest purpose without ample teaching facilities. He made a plea for endowments for the teaching institution in order that its several chairs might be held by full-time teachers.

In the evening a splendid banquet was given at Hotel Sinton to the board of hospital commissioners by the Chamber of Commerce of the city. There were 189 guests, and Mr. Wm. B. Melish was the toastmaster. Again Dr. Pritchett was the principal speaker, and his subject was "The University Medical College."

Mr. Thomas C. Powell, president of the Chamber of Commerce, responded to a toast, "Appreciation of the Citizens of Cincinnati," in which he paid a marked tribute to Dr. Christian R. Holmes and his fellow workers on the hospital commission.

Mayor Spiegel modestly said only a few words and amid loud cheers and handclapping and a great ovation, called upon Dr. Holmes to speak for the hospital commission.

Dr. S. J. Mixter, Senior Chief Surgeon of the Massachusetts General Hospital, Boston, spoke on "American Medicine," in which he took occasion to compliment Dr. Holmes and the public-spirited citizens of Cincinnati in building such an institution. The last speaker was Dr. B. K. Ratchford, president of the medical staff of the hospital, who spoke on "The Medical Profession of Cincinnati."

The guests of the evening were made up of Cincinnati's foremost business and professional men, many physicians and a number of prominent out-of-town people.

For two days, February 20 and 21, all parts of the new hospital were kept open for the reception of visitors and there were ushers to show them the special features of the new hospital. On the 22d the new institution was opened for the reception of patients.

A general hospital being erected at Dover, N. J., will be opened in April.

## PHILANTHROPY AND THE PUBLIC HEALTH

THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR.

BAILEY B. BURRITT, General Director.

WILLIAM H. MATTHEWS, Director.

*Department of Family Welfare.*

DONALD B. ARMSTRONG, M. D., Director.

*Department of Social Welfare.*

### A NEGLECTED NATIONAL DEFENSE

#### The Teeth of Public School Children

BY HOLLAND HUDSON

The daily newspapers, weekly journals and even the stately reviews have been much taken up, since the war began, with discussions of our national defense policy. The arguments employed have hinged almost altogether on armament and on the numbers of troops available today. Whether jingo or pacifist be right, a sturdy, healthy population is essential to a nation's prosperity in either war or peace. A sick people is a defenseless people, whatever its armament or its history.

The United States is today, in spite of hospital statistics which are read with more equanimity than they deserve, as well off physically as most nations, thanks to a vigorous pioneer stock and to fairly sturdy immigration. Will it be as healthy tomorrow? Will the vigor of pioneer and immigrant heredity withstand the strain of modern urban life without extraordinary precautions?

The teeth of school children in New York City are no happy augury for the health of tomorrow. An official census of school medical inspections in 1913 showed 69.7 percent of the children examined to be in need of immediate dental treatment. Of this total, subsequent reports showed only 23.8 percent treated. According to these figures more than half a million school children are constantly exposed to the results of dental neglect, none of which helps to produce healthy adults. According to dentists and doctors who have studied the relation of dental and general health, some of the results of neglected dental defects are:

1. Malnutrition—diseased teeth being inefficient agents in the preparation of food for assimilation by the system.

2. Infected material from the cavity of the tooth coming in contact with the food frequently exposes the food to contamination and it goes to the stomach in a septic state.

3. Indigestion, caused by improper mastication of food.

4. Malnourished bodies, resulting in inability to resist disease.

5. Diseased teeth are the cause of great economic loss because of the pain, which renders the individual incapable of producing on the same basis of efficiency as would be possible in a healthy state.

6. Facial neuralgia is frequently the result of tooth-rot.

7. Through incubation in decayed teeth pathogenic bacteria have an excellent opportunity to enter the system. Thus there is danger in exposing carious teeth to dirt or dust-carrying pathogenic organisms. The temperature, the darkness, the inaccessible character of the mouth, increase the danger of infection.

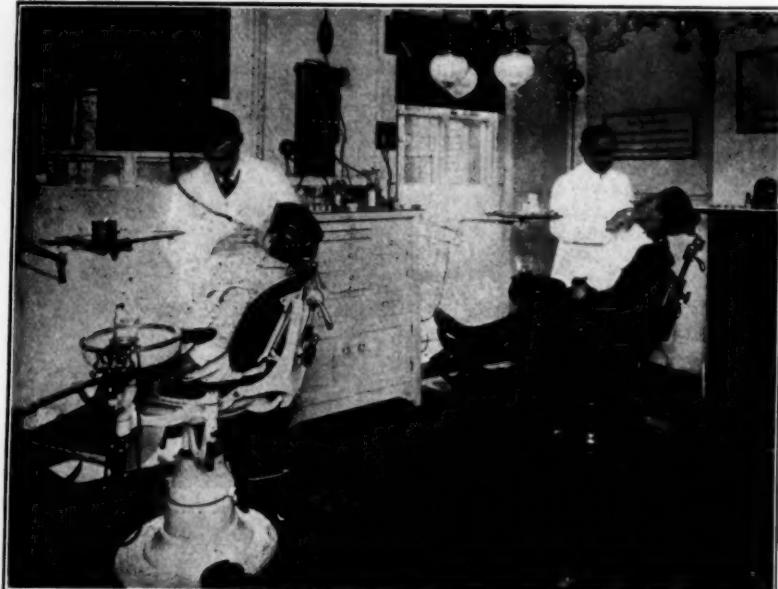
8. It is believed, also, that the tooth socket infection in pyorrhea alveolaris is responsible for the disabling general systemic disturbances described symptomatically as rheumatism.

Against these dangers the city of New York maintains, through its Department of Health, seven dental clinics where treatment is given to as many cases as the clinics can handle with nine dentists on half time. As the number of children with serious dental defects is more than half a million, it is obvious that the present equipment scarcely touches the problem.

In 1913, under the direction of Mr. Edward F. Brown, the Bureau of Welfare of School Children of the New York Association for Improving the Condition of the Poor made a very thorough investigation of school dental hygiene. An appalling disproportion was found between the clinical facilities and the urgent dental needs of school children. The bureau recommended to the city

the establishment of dental clinics and the employment of more dentists. These recommendations were enthusiastically endorsed by the First District Dental Society. The Department of Health had been aware of the inadequacy of its equipment and recommended in its budget estimate the immediate addition of six dentists, further increase being contemplated in future budgets.

The outbreak of the war caused the Board of Estimate and Apportionment to alter the city budget very materially, few new expenditures being projected. The effort to safeguard the city was centered on the city's strong-box. The working fund of the Department of Health was decreased more than \$90,500. It is not entirely accurate to lay this crippling of the health department's activities en-



Dental clinic for school children. (Maintained by Division of Child Hygiene of New York Department of Health.)

tirely at the door of the European war. The war is only the emergency which shows the lack of public appreciation of constructive health work.

The failure to grant the appropriation desired for school children's clinics is probably an honest reflection of the average citizen's attitude toward public health expenditures. It is with the sanction of the electorate, actually at its wish, that tomorrow's safety is mortgaged for today's economy. This goes on not only in New York City, but in nearly every city. Is the economy sound?

### THE FORSYTH DENTAL CLINIC OPENS

#### An Endowed Institution to Care for the Mouth Hygiene of the Children of Boston

The Forsyth Dental Infirmary for Children was founded by John Hamilton Forsyth and Thomas Alexander Forsyth in memory of their brothers, James Bennett Forsyth and George Henry Forsyth.

It was incorporated in Boston in 1910 by a special act of the Massachusetts Legislature. The building is located at 140 The Fenway, and is easily reached by any Huntington Avenue, South Huntington Avenue, Brookline or Allston car.

The Board of Trustees is made up of the following members: Thomas A. Forsyth, president; Edward Hamlin, vice-president; Chester B. Humphrey, treasurer; Dr. Harold DeW. Cross, Dr. Timothy Leary, Dr. John F. Dowsley, Dr. Harold Williams, Dr. Ervin A. Johnson, Dr. Gurdon R. Mackay and Nelson Curtis.

The purpose of this institution is to care for the mouth conditions of worthy children up to the age of seventeen years. Care is given to the teeth, and attention also paid to adenoids, the tonsils, hare-lip, etc. The entire mouth will be made clean. The benefits of this institution are extended to all worthy children up to the age limit, regardless of sex, color or race. All children who are recommended by charitable organizations, clergymen, social workers or school nurses will be given attention.

The Infirmary will have a social secretary whose duty will be to follow up each case, and social workers to read to the children. The initial equipment consists of 64 chairs, and there is room for 44 additional ones. Just as soon as the institution is in running order it is expected that 500 patients per day will be cared for. In addition to the dental and surgical

In order that there may be saved a few thousand dollars annually, must the nation resist its enemies of tomorrow with an army of weaklings, or must we take an insignificant place in the world's commerce for want of fit men and women to meet the new demands of great production and distribution?

It is high treason for a citizen to destroy or damage any part of the nation's armament. Ought it not also be treason for cities to damage by false economy the health of their own and the nation's citizenship?

service chiefs, there will be about 80 graduate dental interns who will attend to the clinic, and all of these will be paid operators. A charge of five cents will be made for each visit, regardless of the nature of the work to be done.

There is a boys' and a girls' ward with four beds in each, which will be used for surgical patients. There is a large lecture room in the building, seating about 300 people,

where lectures on "Mouth Hygiene" will be given to the public. The hours are from 9 a. m. to 5 p. m. the year around; the institution will not be closed during the summer.

The building was dedicated on November 24, 1914, with exercises in the morning, and tea in the afternoon. The building was open for inspection all day. Some of the speakers at the exercises were His Excellency, David I. Walsh, Governor of Massachusetts; Honorable James M. Curley, Mayor of Boston; Charles W. Eliot, President Emeritus of Harvard University; Thomas Alexander Forsyth, one of the donors of the building; Milton J. Rosenau, Professor of Hygiene, Harvard University; Donald M. Gallie, President National Dental Association; Edward McSweeney, Trustee of Boston Consumptive Hospital; William J. Gallivan, Chief of Bureau of Child Hygiene, Boston; Edwin T. Darby, Professor of Operative Dentistry, University of Pennsylvania; Prayer by Monsignor Spaine, and Benediction by Bishop Lawrence.



Fig. 1. Forsyth dental clinic. The initial clinic room of 64 chairs.

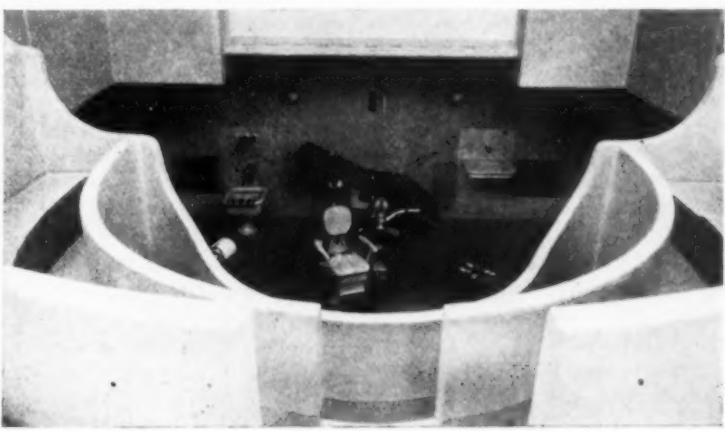


Fig. 2. Forsyth dental clinic. The amphitheater.

The Chinese, five hundred years before the dawn of the Christian era, had developed a regular hydrotherapeutic technic for the cure of skin diseases. In old Manchurian records are found descriptions of apparatus and procedure for administering the "water cure," which closely resembled the hydrotherapeutic department of modern hospitals.

## PREVENTION OF BLINDNESS MATERNITY

Conducted by CAROLYN CONANT VAN BLARCOM, R. N.,  
Secretary National Committee for the Prevention of Blindness;  
Chairman Committee on Infant Welfare, National  
Organization for Public Health Nursing.

### Cleveland's Infant Eye Work

BY HARRIET L. LEETE, R. N.,

Superintendent of Nurses of The Babies' Dispensary and Hospital and  
The Bureau of Child Hygiene.

No argument is needed to prove the value of prevention in eye work. However, a report of Cleveland's work may be of interest.

The story of Jo, who was referred to the eye nurse when only a few days old, is a simple illustration of the value of nursing care and supervision; he was under the direction of the private physician who had confined the mother; there was a severe infection of one eye; this condition was improving, the physician had discontinued his visits and the nurse felt very hopeful, when, owing to the carelessness of the mother, the other eye became infected. The nurse realized that two things were essential if the baby's eyesight was to be saved; first, continuous skilled care for the eyes, and second, breast milk for nourishment in order that the child might gain his necessary resistance. She felt amply repaid for all her efforts when the child left the hospital entirely cured.

Susie was not so fortunate, as her mother did not hear about the eye nurses until her baby was fifteen months old; then when she called one of them in, told her story, and allowed Susie to be taken to an ophthalmologist for examination, she learned that Susie was entirely blind as a result of the non-registered midwife's carelessness at the time of her birth.

Anyone working with children under three years of age soon understands the necessity of having infant eye work and infant welfare work under the same medical direction.

From the economic view-point one can easily demonstrate that the city or state is making a wise expenditure of money when it contributes to the prevention of blindness. In Cleveland it costs the city \$30 a year to educate a seeing child and \$200 to educate a blind child. The visits of a nurse to prevent blindness, her time and carfare, plus the medicine, would not exceed ten cents a visit, the average number of which would be thirty to each case.

During the year 1914 the two nurses doing infant eye work visited 735 cases; of these cases 306 proved to be only simple conjunctivitis, 64 did not need any treatment, 328 had various diagnoses, while only 37 received a definite diagnosis of gonococcus infection. In addition to the 37 diagnoses of gonococcus there were many cases which presented so severe a form of infection that we feel sure at least 50 babies owe their eyesight to the prompt, persistent care and instructions of the nurses. It cost the city just \$150 to save the eyesight of these 50 babies, their education now will cost the city \$1,500 a year, instead of \$10,000 a year; thus in their education alone the city is \$8,500 a year richer. Deducting the \$150 from the \$8,500

saved, we find the city has saved \$8,350 which might well be used towards financing other preventive work.

Nursing for prevention of blindness requires specially trained women, as so frequently clinical symptoms indicate what the necessary care must be, even though a certain diagnosis cannot be made from the examination of the smear—the nurse learns to recognize dangerous symptoms and to differentiate between these and simple conjunctivitis, or inflammation caused by the injection of silver nitrate. Even with all of her experience and trained observation she never takes the slightest chance by making a diagnosis; if the mother cannot afford to have a private physician, the nurse insists upon having the child taken to a dispensary for medical examination. If patients over three years of age are found whose vision is sufficiently impaired to require future assistance they are always referred to the Society for the Blind; through their social service department the child or adult is given every opportunity that can be secured in order that his handicap in life may be as nearly a minimum one as it is



"Little Jo."

possible to make it. All eye cases over three years of age reported either to the Babies' Dispensary and Hospital or to the Division of Health are given to the adult eye nurse, who is also under the direction of the Bureau of Child Hygiene. This nurse, in 1914, had under her supervision 587 cases, and considered herself fortunate to have charge of such interesting and worth-while work. She, like the infant eye nurses, works under the medical supervision of private physicians and also takes many cases to special eye clinics in connection with the hospitals.

Newspaper publicity has always reached some mothers who otherwise would not know about the nurses, so we have throughout the year occasionally given to the daily newspapers illustrations and descriptions of the work.

There is also the closest cooperation with the Medical Inspection Department in the public schools, and we know that through the correlated efforts of all organizations Cleveland has been able to accomplish much towards prevention of blindness.



### Some Factors in Life Shortening

BY EUGENE L. FISKE, M. D.,

Director of Hygiene, Life Extension Institute, Inc.

Adding a mere mathematical increment to human life is not a particularly attractive field. Unless the elixir of life be discovered, we must reconcile ourselves to the thought of ultimate death. Whether this come in seventy-five years or in eighty years from birth is not a matter of any great importance, although it is quite possible that, with better knowledge of how to live, the span of human life may be extended well beyond one hundred years. If this result should come about, the most gratifying condition incident to such a development would be the change in the meaning and quality of lives that are so extended.

A death that is not due to accident or to some acute disease is the final result of some long-continued process of impairment or decay. Indeed, most cases of death from acute disease are actually due to underlying chronic conditions, which it may not always be possible to classify into any particular form of disease, but which are often a chronic condition of lowered resistance.

In the main, the forces that tend to shorten our lives are of the pin-prick order. They are continually at work, but their activity passes unnoticed until their cumulative effect is made manifest in some form of physical breakdown or until one is aroused to compare his present condition with that of several years past. It is only by comparing photographs taken at intervals of years that we recognize the encroachment of time.

It has been found that by brushing the teeth for ten minutes with an ordinary tooth powder or prepared chalk, the enamel is thinned to the extent of one one-thousandth of an inch. Such a slight wearing of the enamel would not, of course, be perceptible to ordinary observation over months of time, and only after years of such polishing would the loss of the enamel be observed.

Thus it is with many life influences. From day to day an error in diet, or in personal hygiene, may apparently be attended with no ill result, but in time the cumulative effect is felt.

With regard to certain influences, they can be measured fairly definitely in the mortality records. Take alcoholic indulgence, for example: a recent analysis of the experience of forty-three American life insurance companies developed very interesting evidence bearing upon the relative longevity of so-called "moderate" users of alcohol. For those who were accepted as standard risks, but who gave a history of occasional alcoholic excesses in the past, the mortality was 50 percent in excess of the standard mortality, equivalent to a reduction of four years in the average lifetime of the group. For individuals who took two glasses of beer, or a glass of whiskey, or their alcoholic equivalent, each day, the mortality was 18 percent in excess of the standard. For men

who indulged more freely, but who were considered acceptable as standard insurance risks, the mortality was 86 percent in excess of the standard.

The average individual who drinks within the limits of so-called moderation is not lacking in confidence in his longevity. He is skeptical as to any adverse influence from the use of one or two glasses of beer a day. But he has no means of measuring slight changes in his nervous system, in the blood vessels, heart, or kidneys, which may be brought about by such indulgence, because impairments of that description do not make their presence known until there is a serious disturbance in function, reflecting positive organic changes.

The extent to which various habits impair the human machinery cannot be accurately followed in clinics, at hospitals, in the laboratory, at the bedside, or in the consulting room. Mortality records, if they can be followed and compared among people who are homogeneous except as regards the particular form of indulgence under investigation, offer the most conclusive evidence. How often a death from typhoid fever or pneumonia is due to latent heart weakness or vasomotor weakness, brought about by indulgence in narcotics such as alcohol and tobacco, we have no means of knowing, but we do know that those who indulge steadily in these narcotics show a higher death rate.

In a discussion before the New York Academy of Medicine, Dr. L. Bolton Bangs called attention to the case of a patient who strangely failed to rally after an operation, until he was supplied with his accustomed cigarette, the doctor having a "hunch" that it was this missing indulgence that caused the condition. It was then suggested that there were probably many such cases where individuals accustomed to the use of tobacco and deprived of it following operations suffered just as alcoholics suffer and have to be supplied with their accustomed narcotic, even though its use as a drug would ordinarily be contraindicated in such conditions as typhoid and pneumonia.

Regardless of what one's views may be concerning the very moderate use of alcohol and tobacco, no one can question that any large group of individuals who use these narcotics will show, as a group, a higher mortality. Life insurance experience among users of alcohol is now quite extensive, covering in some companies more than sixty years of time. Experience among British companies is in accord with that of American companies. Very little life insurance experience is available regarding tobacco users, but it is hoped that in time life insurance companies will give more attention to this subject, and will require information on their examining forms which will enable statistical investigations to be carried on with regard to the mortality influence of this drug.

The laboratory evidence regarding the effect of tobacco justifies us in putting it down as a life shortener for the average individual. We have referred to the fact that the mortality in this country from degenerative diseases of the heart and blood vessels is increasing, while in England and Wales it shows a downward trend. In this country the per capita consumption of tobacco is more than three times that of the United Kingdom, and has increased about 50 percent in the past thirty years. Since 1904 the consumption of cigarettes in the United States has increased from 13,000,000 lbs. to 56,000,000.

Experiments made on college students and very carefully checked showed inferiority both in athletics and in scholastic standing among smokers as compared with non-smokers.

Those who have closely observed our college youth have

been impressed with the adverse influence of tobacco not only upon scholarship but upon athletics. Dr. Pack, of the University of Utah, in analyzing the football squad, as ideal a homogeneous group as could be found, developed the following facts:

1. Only half as many smokers as non-smokers are successful in the "try-outs" for football squads.
2. In the case of able-bodied men, smoking is associated with loss in lung capacity amounting to practically ten percent.
3. Smoking is invariably associated with low scholarship.

If tobacco undoubtedly affects the physical and mental condition of vigorous young athletes, why should such an influence suddenly turn into a harmless factor in mature life? There is really no physiological or pharmacological justification for such a view, and those who use tobacco must take the risk of lowered efficiency and of life shortening.

#### AN UP-TO-THE-MINUTE FIELD HOSPITAL

##### Belgian Hospital at Calais Prepared to do Scientific Surgery as Routine Practice.

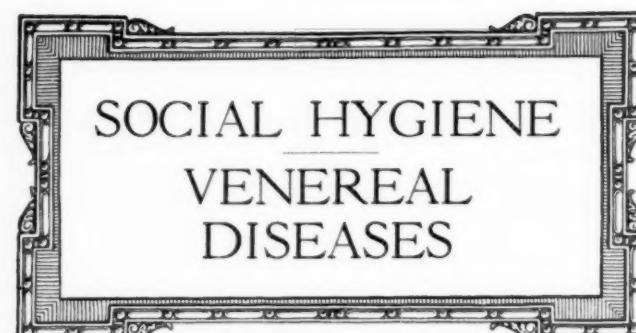
A medical expert who has been inspecting the various field hospitals of the allies in the western theater of war declares that the Queen Elizabeth Hospital at Calais is a model and the best that he has seen. The hospital is under Belgian control and all of the patients are Belgian soldiers. The x-ray room is described as one of the most completely equipped in France. According to the expert the apparatus consists of an electric instalment of enormous power, so planned as to permit the taking of instantaneous x-ray photographs by the mere manipulation of a lever and in the space of a fraction of a second. This is especially useful in the case of a patient who is in great pain, or is unable to remain quiet in one position. He is detained in the x-ray room only a second or two, and a beautifully clear print is secured. Moreover, the danger of burns to the operator is minimized, because there is no prolonged exposure. So instantaneous is the operation that it is impossible to detect any lighting up of the x-ray tube.

A stereoscope is fitted in the room and affords an interesting demonstration of the application of scientific principles to modern science. By the use of this, two x-ray photographs are taken simultaneously, and on looking at them through a specially arranged stereoscope apparatus a very perfect stereoscope picture is seen. In this bones and foreign bodies, such as bullets and pieces of shell, stand out in perspective, making it possible to determine their relation to one another in a manner which is very instructive from the point of view of the operating room. The surgeon is able to gauge the depth of a bullet as well as its position.

Another interesting departure at the Queen Elizabeth Hospital is the ultra-violet rays water sterilizer. This purifies water through the use of the ultra-violet rays of the spectrum. This sterilizer has the advantage that it requires no attention, does not boil the water, and does not alter its taste. Moreover, by a clever device, the water is cut off at once should the electric current which generates the rays fail.

##### The American Hospital in Paris

Dr. George W. Crile, of Cleveland, who has returned to this country after a stay of six weeks in Paris, at the head of a division of the American Ambulance Hospital, is quoted as saying: "From my own observation and from talks with military and professional authorities, I have no hesitation in saying that the American Ambulance is the finest hospital produced by the war, and this is the unanimous opinion of the authorities with whom I talked. The hospital is known throughout Europe and the great work that is being done there is widely recognized."



Conducted by WILLIAM F. SNOW, M. D.,  
General Secretary, *The American Social Hygiene Association*,  
105 West Fortieth Street, New York City.

##### The Value of Hospital Statistics on Venereal Diseases

On November 7, 1913, there occurred in London the first hearing before the Royal Commission on Venereal Diseases in the United Kingdom. The recently published "Minutes of Evidence," taken before this commission during the first thirty-five sessions at which witnesses were examined, are full of interest to all who are studying the problem of reducing the prevalence of venereal diseases and alleviating the illness and economic waste caused by them. The following selected and abridged quotations suggest the opportunity that exists in the United States to enlist hospital staffs in assembling information in this field:

###### Minutes of First Day:

(Lord Sydenham, Chairman; Dr. T. H. C. Stevenson, witness.)  
Chairman: You are Superintendent of Statistics of the Registrar General? Ans.: Yes.

Chairman: Your figures depend almost entirely upon death certificates, either given by private practitioners or medical officers of the various institutions who return them to you? Ans.: Yes, about 7 percent founded upon the verdict of coroners' juries, and about 1 1/2 percent refer to uncertified deaths.

Chairman: So the value of those certificates probably varies considerably in different cases? Ans.: Yes. I should say in relation to syphilis the value is very much higher in the case of institutional deaths than in the case of deaths outside of institutions.

Chairman: Turning to your tables on the general returns of deaths from all causes, those two items of syphilis and gonorrhoea are the only two that bear directly on our inquiry? Ans.: We have deaths also from locomotor ataxia, and general paralysis of the insane, and aneurism, which I think have a very intimate connection.

Chairman: Do you think there is any considerable reluctance to certify deaths—of adults at all events—as due to one of these diseases? Ans.: I am quite satisfied that there is the very greatest reluctance.

Chairman: And might we believe that the certificates which are obtained from institutions are much more likely to be accurate than those which are obtained from general sources? Ans.: I think there can be no doubt of that.

Chairman (Dec. 19): Since you gave evidence before me on the last occasion you have made a considerable number of fresh investigations of a statistical character, which have led you to form conclusions which seem to be of considerable importance? Ans.: Yes.

Chairman: The two causes which operate to vitiate the returns are, first of all, the delicacy of the medical practitioner in his relation to the family and secondly, the question of insurance in some cases? Ans.: I believe those are the two main points.

Chairman: You have instituted a comparison between institutional deaths and deaths in the home, and you have given us some tables. What do you argue from these (sets forth various percentages)? Ans.: What seemed to me the most reasonable conclusion was that, in the case of syphilis, and especially of adult syphilis, the institutional percentage was artificially raised by reluctance on the part of the medical practitioners to certify that disease as the cause of death when the death did not occur in an institution. I presume that the medical officer of an institution feels that he has a much freer hand in regard to certifying the real cause of death in such cases than private practitioner, who may damage his practice by taking such a course.

Chairman: You mean generally that concealment of cause arises in regard to deaths which do not occur in institutions? Ans.: I think at all events it is much more marked and probably carried much further.

Chairman (March 16; Dr. Douglas White, witness): You have made a special study of the question of the prevalence of venereal diseases, have you not, and have followed the movements in combating these diseases in foreign countries to some extent? Ans.: That is so.

Chairman: We hope to get fairly good results of a statistical character from hospitals and institutions dealing with the invalid population. But when it comes to spreading those over the civil population the difficulty is very great? Ans.: Yes, it is very great, because you have to rely on the individual physicians.

Chairman: You, of course, are aware of the flaws in the Registrar-General's figures, and that a great many deaths which should be attributed to syphilis are not attributed to syphilis, and if it was not that general paralysis and tabes are not known generally to the public as being so connected we should not have those figures? Ans.: Yes, the Registrar-General's figures must be extremely defective. At the same time, I think that they have a quite definite value of a relative character; that is to say, supposing we wished to find what proportion the

female deaths bore to the male deaths, I think we should find ourselves accurately guided by these figures. Again, if we want to find what proportion of children and adults die, I think we would get a true proportion, although the absolute figures would be hopelessly out.

Chairman: So you regard these figures as valuable for relative purposes? Ans.: Yes, certainly; and very nearly for absolute purposes as regards diseases which have not, up to the present, been viewed by the public as indications of syphilis. There is no reason why there should be any inaccuracy beyond a few omissions, of course, in cases of aneurism, general paralysis, or tabes.

Chairman: Then you attach greater importance to deaths from these three diseases than to the deaths returned under syphilis? Ans.: Very much more.

Chairman: One possible flaw in your argument is that the returns from institutions are generally much more accurate than those of people who are treated in private houses. Therefore, institutional treatment would tend to show a greater prevalence in towns than in the country. That, of course, has occurred to you? Ans.: Yes, that is to say, people would be registered as dying from these diseases at the towns where they had lived. I understand since 1911 that system has been given up, and they are now allocating the people who die in institutions to the places where they have lived.

Chairman: But still you arrive at the conclusion that the larger the city the greater the proportion of sexual disease, and I suppose that is fortified by a good many figures? Ans.: Yes.

Chairman: Then the result of this calculation (referring to special tables relating to syphilis) is that as far as the United Kingdom is concerned, about 28,000 women and 86,000 men contract syphilis annually. Then you go on, "If the expectation of life for a syphilitic (acquired at an average age of 24) be 30 years, which is not unreasonable, there must be in the United Kingdom some three millions of syphilis, allowing for a fair proportion of cures"? Ans.: I think that if one grants the annual incidence, one is almost bound to grant the other, because I find, on looking up the figures of expectation of life, that the expectation of life at the age of 24 is very nearly 40 years, and one cannot think of syphilis as likely to cut down that expectation of life by at any rate more than 10 years at least, I should doubt it. Of course, in the unfortunate cases which fall under general paralysis and tabes, the expectation of life would be very much less. On the other hand there would be a very large proportion who would not be very greatly affected. I think 30 is not an unreasonable figure anyhow.

Chairman: Then you think the calculation of 3,000,000 of syphilis is not an excessive calculation? Ans.: I am not inclined to think so.

Chairman: Then you also assume that the distribution of venereal diseases follows the same proportion as syphilis? Ans.: Yes, that some people might take for granted. But it just occurred to me that it might be fallacious, and I looked up the figures of this Prussian return, and found quite distinctly the proportion of gonorrhoea to syphilis appears, very roughly of course, but it does appear to go down as towns increase in size; that is to say, as the town gets smaller there seems to be a tendency to a greater prevalence of syphilis to gonorrhoea.

Chairman: Assuming that in England we have this proportion of six to one, you arrive at 114,000 cases of syphilis annually for Great Britain; 686,000 cases of gonorrhoea and chancreoid; and of the 686,000 we may perhaps suggest, resting on the army returns, that one-quarter are chancreoid and the rest gonorrhoea? Ans.: Yes; that is the nearest approach we can get to a sound estimate on the indirect method.

Chairman: That is an estimate of the total infections in the year in the United Kingdom? Ans.: Yes, it is 800,000 divided up into those proportions of six to one.

Chairman: Now, if we assume 800,000 fresh infections yearly, you say the figures would involve some 450,000 fresh individuals who had previously not been infected? Ans.: That is so. I do not mean 800,000 persons but 800,000 fresh infections of whom probably about 450,000 are fresh individuals.

Chairman (Dr. Stevenson, witness): Turning to another part of your evidence; then you come to the conclusion that gonorrhoea as a cause of death is frequently concealed. Will you explain your views on that point? Ans.: In view of what gynecologists tell us as to the seriousness of gonorrhoea, especially in females, and the number of deaths that are really attributed to it as the starting point of various local inflammations, I think there can be no doubt that we only get a record of a small proportion of the total cases which might be recorded as due to gonorrhoea.

Chairman: In fact, you come to the conclusion that the death rate affords no indication of the large female mortality from gonorrhoea? Is there any prospect of some better tabulation being introduced in the future, which would give an index to the larger number of deaths to which you refer? Ans.: I think it is not a question of tabulation so much as one of certification. I am afraid until means can be devised for obtaining a candid certification of this class of cases, that we shall have no material that, however tabulated, would afford reliable returns.

Chairman (Dr. R. W. Johnstone, Medical Inspector Local Government Board, witness, Nov. 13, 1913): I understand from your report you think the hospital accommodation at present provided for the treatment of venereal disease is much too limited? Ans.: Absolutely. At the time of my inquiry the only beds specially provided in London for venereal diseases in their early stages outside the Poor Law institutions were those in the London Lock Hospital. At the present moment, the male branch of the hospital is being rebuilt, and in consequence only one or two emergency beds are at present available for males.

Chairman: Do you know why it is that advanced cases of syphilis and complications of gonorrhoea are freely admitted, as you say, but early cases are not treated? Ans.: Because people have got the idea that the early cases are so much more infectious. That is true, and it was on the ground of infectivity that objection was generally raised when the matter was discussed. I have had many discussions with hospital secretaries and surgeons and physicians. Occasionally they object very much. Some say that their staff are not properly prepared for it; they would get infected. Others put it on moral grounds. I had one letter from a surgeon of a London hospital, who is a very well-known man, after my report came out, in which he said he had given a few of his beds for the Salvarsan treatment, and that he had had a great deal of unpleasantries amongst his colleagues about it. So that even the medical side seems to object to bringing in the early infective cases, the ones we can cure and the ones we want to get in.

Chairman: I suppose your general deduction from all these inquiries is that far more facilities for treatment, and especially early treatment, are most wanted? Ans.: Yes, I think from the public health point of view as regards the new development of treatment, the important thing is not whether it is going to cure people in the end, because there is still mercury, but that the infective stage can be terminated

much more quickly. It makes early treatment for preventive purposes a practicable thing.

And so the testimony reads through over four hundred pages, covering every phase of the social hygiene field. One cannot read this evidence without realizing that it is possible to chart the unknown seas of venereal disease statistics, if we go about it seriously in the United States; and realizing also that our hospitals and institutions offer a most promising approach.

The quarterly journal, *Social Hygiene*, for March, 1915, contains a valuable article by Surgeon Banks<sup>1</sup> on a study of venereal diseases treated by the United States Marine Hospitals during the past twenty-five years. The article concludes with the following paragraph:

"If we were starting fresh today, an uninfected nation, it would take 33 years at the rate of 3 percent annual infection to syphilis the entire body politic, but each year brings in a new class of the clean humankind and automatically reduces the ratio. The experience of the past is probably not different from the present, and the obvious conclusion as to the percentage of 'damaged goods' we have with us, as affected by our remote ancestors, is not obvious at all. It is beyond the practical possibility of determination, because of the existence of so many factorial modifications, such as attenuation, immunity, and accident. The real interest centers practically in facing the problem for the future, not in estimating the exact damages of the past. It is a campaign for prevention, and we can start out by saying that we have to meet with nearly two and a half million cases of venereal diseases annually treated in the United States—about one person in every forty."

The report of the Wisconsin State Vice Commission, November, 1914, includes the following:

"The committee sent a questionnaire to the hospitals of the state, requesting certain information regarding venereal disease in these institutions. Seven hospitals replied, and furnished data sufficient to enable the committee to compile the following statistics:

"Of a total of a little over 16,000 cases treated by the seven hospitals replying to the questionnaire, 870, or 5.4 percent, were treated for a venereal disease. Two and seven-tenths percent of the total number of cases treated by the hospitals were cases of syphilis, and 2.6 percent were cases of gonorrhoea. Of the 870 cases of venereal disease, 50.4 percent were cases of syphilis, and 49.5 percent were cases of gonorrhoea, showing that the whole number of venereal disease cases was about equally distributed between gonorrhoea and syphilis. Thirty-three percent of those treated for gonorrhoea were women, and 67 percent were men. Thirty-one and two-tenths percent of those treated for syphilis were women, and 68.8 percent were men, showing that in these institutions about two-thirds of the cases of venereal disease were men. Of the women treated for venereal disease, 58 percent were single, while 42 percent were married. Of the men treated for venereal disease, 71 percent were single, and 29 percent were married. It will be noticed that there is a discrepancy between the total number of cases of venereal disease and the number of married and single cases given. This is accounted for by the fact that certain hospitals did not give complete data on the question of civil status of patients. In the operation to determine the proportion of married and single men and women to the total number of those treated for venereal disease, the number 808 was used as the basis instead of 870. Eight hundred and eight is the number regarding whom the facts of civil status were given by the hospitals.

"Mention has been made in another section regarding the advisability of establishing public clinics in this state for the free diagnosis and treatment of venereal disease. Such clinical laboratories are maintained by New York City, Syracuse and several other municipalities. These laboratories prove of great service not only to the persons who come directly to the expert in charge for tests made to determine the presence of the gonococcus or the syphilis germ, but also many physicians send in specimens to be tested in the laboratories. This public service is a long step toward the treatment of venereal disease as a real and important public health problem. The great prevalence and damage of gonorrhoea and syphilis to child and adult alike demands activity on the part of public health authorities, in order to meet the emergency. In another section of this report, the committee strongly recommends the establishment of public clinics and free wards or hospitals for the treatment of venereal disease. The state of Wisconsin, which has been on the firing line of progressive measures, should not fall behind the other states in providing adequate and widespread facilities for the treatment of the two most insidious and dangerous diseases with which the human race is afflicted."

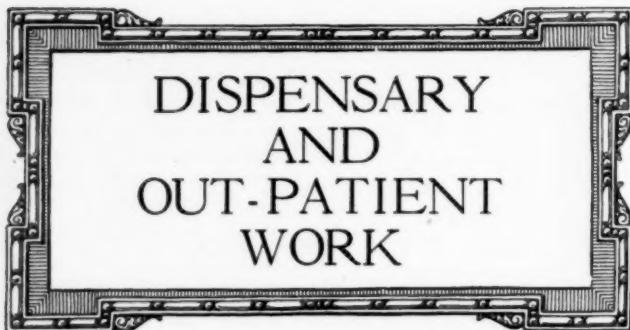
The American Public Health Association has appointed a Committee on Venereal Diseases<sup>2</sup> which is studying the venereal disease problem in this country, and the American Medical Association has planned, through its Section on Hospitals<sup>3</sup>, to hold a symposium on venereal diseases in San Francisco in June, 1915.

It is desirable that every reader of THE MODERN HOSPITAL who knows of good work being done on the statistical or other phases of the venereal disease problem should communicate with these two national committees.

<sup>1</sup>"Social Hygiene," Vol. I, No. 2, pp. 220 to 226.—*Venereal Disease—Its Probable Prevalence—An Attempt to Reach a Definite Basis of Statistical Value.* Also published, Feb. 26, 1915, U. S. Public Health Reports.

<sup>2</sup>Committee on Venereal Diseases—Dr. William F. Snow, Chairman, 105 West 40th street, New York; Dr. John N. Hurty, Secretary, State Board of Health, Indianapolis, Ind.

<sup>3</sup>Dr. John A. Hornsby, Secretary of Section on Hospitals, A. M. A., Tower Building, Chicago, Ill.



Conducted by MICHAEL M. DAVIS, Jr.  
Director of the Boston Dispensary.

#### Question Box

Readers of THE MODERN HOSPITAL are invited to send questions concerning any features of dispensary organization, equipment or administration to the editor of the Department of Dispensary and Out-patient Work, THE MODERN HOSPITAL, Tower Building, Chicago, Ill.

The best available experts will be secured to answer questions and, if questions and answers are of general interest, they will be printed in these columns.

#### New Features in Dispensary Work

The Committee on Out-patient Work of the American Hospital Association has just sent to about 400 dispensaries and out-patient departments a blank form inquiring as follows:

What new features in construction, equipment, organization or methods of your dispensary were introduced during 1914?

The blank goes into detail beyond this one question, but all the questions are along the same lines and several interesting points ought to be brought out. This information, if gathered each year, as the committee hopes it will be, is to be placed at the disposal of all institutions by including the salient facts in the annual proceedings of the American Hospital Association, and thus a running annual summary of the progress of dispensary work and the improvement in dispensary methods will be in the hands of everyone interested.

The present list of dispensaries and out-patient departments is necessarily incomplete. *Superintendents of hospitals or dispensaries who have not already received this blank from the committee will confer a great favor by sending their names and addresses to the Chairman, Committee on Out-patient Work, 25 Bennet Street, Boston, Mass., so that he can place them on the list and later enlist their cooperation.*

#### The First Dispensary in the English-Speaking World

In 1665 the great conflagration which devastated London brought in its fiery train a blessing, for it rid the city of plague. But the germs of poverty cannot be burned up, and the sickness and misery that follow poverty were so apparent to the public-spirited members of the medical profession of London that in 1687 they voted that all members of the College of Physicians, their professional organization, should give their services to the poor without charge. In due form they transmitted this resolution to the Lord Mayor and Aldermen. When, however, the charitable-minded sought to call the good physicians to the service of the poor, no means were found of providing the medicines which the doctors wished to prescribe. The

pharmacists of London were at that time organized as a guild, the so-called Apothecaries' Hall; and Apothecaries' Hall would not lower its prices, even when the College of Physicians requested it on behalf of the poor.

The physicians did not sit idle under this monopoly in the prescription market. Fifty leading spirits signed an agreement on December 22, 1696, to pay ten pounds apiece to Dr. Thomas Burwell, one of their number, which sum Dr. Burwell was to use for medicines for the poor. Thereupon the first dispensary in the English-speaking world was opened in the building of the College of Physicians.

During the first five years of its existence we do not know how many patients the doctors treated, but it is recorded that 20,000 prescriptions were given out. The physicians, however, complained that the dole of medicines was more highly regarded by the public than the freely given services of the physicians. We do not find this first dispensary mentioned in Addison's *Spectator*; but if the sentiment of the educated London public could have been gauged, we should probably find that the dispensary was regarded as a medical soup kitchen. Medicines and medical service alike were doubtless thought of as a dole to the needy.

In the two hundred years since 1700, medicine has been transformed from a rule-of-thumb practice to a growing science, and dispensaries today are no longer medical soup kitchens, but are regarded rather as Institutes of Public Health.

#### Dispensaries Cooperating in Public Health Work

A meeting was recently called under the auspices of the Boston Association for the Relief and Cure of Tuberculosis to discuss the protection of the public against contagious disease, spreading from diseased persons handling eatables in restaurants, bakeries and other places where food is kept, cooked or sold.

One of the features of the meeting was a number of case reports secured from dispensaries in the city, which, without mentioning names, gave concrete instances of patients in the tuberculous stage who were employed in well-known hotels and restaurants. Syphilis was also mentioned in the same connection. Such examples as the following show a practical way in which dispensaries can cooperate with public health agencies without violating the privacy of medical information:

A negro waiter, serving at a well-known Boston hotel, was found to be an active second-stage case; he was removed from his work and sent to the Mattapan Infirmary.

An Irishman, a waiter, in the first stage, but an un-promising case, and also an alcoholic, was sent to the State Sanatorium at Rutland and from there transferred to the Psychopathic Hospital.

A Greek, a waiter, was in an advanced stage of tuberculosis; he refused treatment and was finally sent back to Greece.

An Englishman, waiter at summer resorts and during the winter in a city restaurant, was a second-stage case; also infected with blood poisoning. He was sent to Mattapan, but ran away from there after two weeks and when last traced was still working as a waiter.

A bartender, working from twelve to sixteen hours a day, was an advanced second-stage case, but he returned to his work after a short absence for treatment, not improved.

A Syrian, cook in a well-known Boston hotel, was in the second stage; he was sent back to Syria.

A pastry cook, an active case, had worked seven years in a prominent Boston hotel.

A restaurant cook was found to be a third-stage case.

An Italian cook in a hotel, also an active case, was ordered out of his place by the Boston Board of Health, and was sent back to Italy.

The second cook in a well-known Boston restaurant was

a very advanced case of tuberculosis and was sent to a hospital to die.

Is not the cooperation with such movements as this, to protect the public against dangerous diseases, a service in which every dispensary should bear a part?

#### A Dispensary Health Center

Most dispensaries are established for the treatment of sick people. Here is a dispensary which is organized not only for that purpose, but also to keep people well. The Maverick Dispensary, in its fifth annual report just issued, tells about this work as a Health Center. This dispensary is in East Boston, which, while a part of the city of Boston, is on a peninsula, almost an island, isolated from the rest of the city. The Maverick Dispensary, as it is named, is the only institution of its kind in this community of 60,000 population.

The annual report states the policy of the institution as follows:

Since Boston is well provided with large and excellent hospitals and dispensaries, a small dispensary serving a local area should not compete with them. Many patients will, however, come to a local dispensary, with minor diseases or with serious diseases in early stages, who would not travel a long distance and would wait until the disease was more serious before they went to a large centrally located institution.

The Maverick Dispensary, therefore, treats minor diseases and such other conditions as can properly be diagnosed and treated in a small institution. Serious diseases and doubtful questions of diagnosis are referred to one of the larger hospitals or dispensaries. Last year actually one-third of all the fifteen hundred medical and surgical patients received were thus referred.

Thus in the diagnosis and treatment of illness, this local dispensary aims to catch disease in its earlier stages and to assist patients, who cannot afford to pay the doctor, to go to that particular institution in the city which is best adapted for the diagnosis and treatment of the disease which they may have.

As a means of preventing disease, the Maverick Dispensary has made itself a Health Center. The physician of the dispensary receives a moderate salary, and is also employed by another organization (through a joint committee with the Maverick Dispensary) as a district physician for East Boston, to visit and treat in their homes patients who are too poor to pay a physician and too sick to leave their homes. In the dispensary building are the headquarters of the District Nursing Association of Boston, so that all the nursing in the homes is intimately co-ordinated with what is done in the dispensary. Furthermore, in the dispensary building is the local office of the Milk and Baby Hygiene Association, which maintains a milk station and a clinic for advice to mothers with babies. The nurse attached to this clinic has her office in the building also. Finally, a clinic for prenatal work with an obstetrical service, for those requiring it, is also in the building through the cooperation of another committee.

Thus, all the chief health organizations concerned with work in this community have pooled their interests through cooperative committees and united them in the one building maintained by the dispensary.

One interesting feature of the Maverick Dispensary's report is an efficiency test of the dispensary work, prepared by the physician-in-chief, Dr. Arthur B. Emmons, 2d, which follows:

#### EFFICIENCY TEST OF THE MEDICAL AND SURGICAL PATIENTS ADMITTED TO THE MAVERICK DISPENSARY, FEBRUARY 1 TO JUNE 1, 1913 AND 1914

	1913	1914	No.	%	1913	1914	No.	%
Patients transferred for care by other agencies.....	185	120						
Patients for whose care the Dispensary retained responsibility.....	264	263						
	449	383						
	1913	1914	No.	%	1913	1914	No.	%
Patients cured or substantially relieved, averaging 4 visits per patient.....	90	34.6	70	30.0				
Patients relieved in one treatment—minor complaints.....	45	17.3	127	48.3				
Patients who made only one visit, result not determined.....	35	13.4	15	5.8				
Patients who ceased to return before completion of treatment.....	38	14.6	30	11.4				
Patients who continued treatment without improvement.....	2	.7	6	2.3				
Patients who came for diagnosis or examination for working certificates.....	25	9.6	—	—				
Patients who refused examination.....	—	—	3	1.2				
Cases pending at time figures were prepared.....	5	1.9	1	.3				
Cases unclassified.....	24	9.0	2	.7				
	264	100.0	263	100.0				

#### EFFICIENCY SUMMARY

	1913	1914
Positive results .....	71.0%	78.3%
Negative .....	27.0%	21.0%
Pending .....	2.0%	.7%
	100.0%	100.0%

#### Nebraska Orthopedic Hospital Opens New Building

The Nebraska Orthopedic Hospital, at Lincoln, is just about to occupy a beautiful new building. The work of this institution has grown very rapidly since its inception in 1905, and the legislature of 1913 appropriated \$45,000 for an additional building to supplement the five already occupied. The new structure is of reinforced concrete four stories high and of modern hospital construction in every detail. A feature of the building is the connection of floors by inclines instead of stairways or elevators. This is with the idea of making the crippled children as nearly independent as possible in getting from one part of the building to another.

The basement of the building contains four school rooms (one a study room and laboratory for nurses), a serving room and two large dining rooms. The first floor has a lobby, four office rooms, two reception rooms and a library. The second floor has wards and rooms for fifty patients, with serving room, baths, etc., while the upper floor is entirely set aside for the surgical department with operating, plaster of paris, sterilizing, surgeons' and nurses' dressing rooms, shower baths, etc.

All the hallways, inclines, bath rooms, etc., have terrazzo floors, while the wards, offices, etc., have maple. The interior woodwork is of birch and oak, with heavy plain doors. The lighting provided for is all indirect or semi-indirect and entirely new surgical equipment has been ordered. The capacity of the hospital will be increased to 150 patients.

Dr. H. W. Orr is the superintendent, and Dr. John P. Lord, of Omaha, chief surgeon.

#### Extracting Metals from Human Bodies

An Englishman has secured American patent rights on a simple method of extracting metals from the human body. His plan is to have a patient place both hands in a conducting liquid contained in a suitable receptacle, and both feet in another receptacle filled with conducting liquid; electrical connection being thus established through the body. It is stated that certain metals in the body will thus be extracted and deposited on the electrode placed in the foot bath. Such a system would probably be of great aid in treating lead or mercury poisoning.

## LETTERS FROM OUR FIELD EDITORS

### Improvements at Vancouver General Hospital

The first wing of a 300-bed Nurses' Home has been completed and opened up. This magnificent structure of reinforced concrete, with a fine exterior of Medusa finish, contains 100 bedrooms, besides numerous sitting rooms, assembly hall and class rooms. The cost was approximately \$135,000. The other wings will be proceeded with as soon as more money is available. The building when completed will cost approximately \$500,000.

The new administration and service wing has also been completed and opened. This addition cost \$100,000. Throughout the idea of concentration and economy of labor was kept in view. This wing concentrates most of the administration and service work of the hospital. It contains the dining rooms, administration offices, emergency department, pharmacy, store room and refrigerating plant. On the top story is the main kitchen having a capacity of from eight to ten thousand meals per day.

The advanced tuberculosis building completed last September is a solid, reinforced concrete building, ideally laid out for the treatment of these cases. It has been loaned to McGill College for a short time to carry on their work, owing to lack of room in their old building, but, on the commencement of the University of British Columbia, will be vacated. This building accommodates 100 patients, but only the advanced cases are taken, as incipient cases are treated at Kamloops, B. C. The cost of this building complete is approximately \$95,000.

The new pathological building almost completed will cost in the neighborhood of \$16,000 and provides abundant modern facilities for carrying on the pathological work of the hospital and city.

Work has been commenced on the alterations to the central part of the main building where approximately \$75,000 will be spent in the installation of our new operating rooms. These will be seven in number, three devoted to the specialties and four to general surgery. The alterations will also include a new eye, ear, nose and throat department. In this the best material and skilled workmanship will be used and when finished we will have a most modern department. The plans and specifications for these alterations are the outcome of a great deal of thought on the part of the hospital authorities. Some 59 hospitals of note in Canada and the United States have been visited and data secured. The work will be completed in the course of six months.

MALCOLM T. McEACHERN, M. D.,  
Superintendent.

The Associated Charities of Kansas City, Kan., have opened a free dispensary for the treatment of diseases of the eye, ear and throat. It is open every afternoon from 12 to 2; for general medicine on Tuesday, Thursday and Saturday afternoons, and for diseases of children on Monday, Wednesday and Friday afternoons.

## LETTERS TO THE EDITOR

### Hospital Architects and Competitions

Wichita Falls, Texas, March 15, 1915.

To the Editor of THE MODERN HOSPITAL:

In your March number there appears a letter from Mr. Meyer J. Sturm, regarding Dr. Bartine's article on "Building the Hospital," which was published in the February issue. In this letter Mr. Sturm makes some statements so startling as to be worthy of comment.

For instance, he avers that there are fifteen architects in America, or maybe it is the world, that are competent to design a hospital. Who would have thought there are so many? And of these fifteen there are five who are experts. Why this shrinking modesty, why this admission that there are four others?

Mr. Sturm also makes some further revelations for the benefit of the public, as follows: That he has sacrificed general practice to specialization in hospital work; that he has done nothing but hospitals for twelve years; and that he read a paper on architectural ethics before the first convention of architects ever held in Illinois. I sincerely trust that the publicity attending these remarks will work no undue injury to Mr. Sturm's business.

I doubt that Mr. Sturm's unqualified charge that less than 10 percent of all competitions are honestly conducted is borne out by facts. There are many instances where competitions are advisable and necessary. Dr. Bartine states that they are the "least desirable method," and with this we all agree. But undesirable and dishonest are different adjectives. The undesirable features of competitions are usually due to ignorance of proper architectural standards on the part of the board and not to crookedness. I think it would be better to recognize this fact and try to remedy it than to arbitrarily condemn competition on general principles.

I fully agree with Mr. Sturm that Dr. Bartine's article is complete in itself and I wish it were published in pamphlet form so it might be used to give boards of prospective hospitals the information they need on selecting architects, as well as many other points.

E. STANLEY FIELD.  
(Field & Clarkson, Architects.)

### Dish-Washing in the Hospital—A Criticism

Philadelphia, February 15, 1915.

To the Editor of THE MODERN HOSPITAL:

The November issue of THE MODERN HOSPITAL carried an article on "The Hospital Kitchen." One paragraph, "The Dish-Washing," was of course interesting to us. That paragraph is misleading. It takes as an accepted fact, that mechanical washing of dishes, where ward kitchens are maintained, is not to be considered.

To show that mechanical dish-washing under the above conditions is an economical and sanitary improvement, we are able to quote Dr. Clemmer, General Director of the Hahnemann Hospital, Philadelphia.

Dr. Clemmer states that an Insinger dish-washing machine, drawing dishes from and distributing to seventeen different points, enables one man to do the work formerly done by five maids. It also enables the hospital to have sterile dishes, which was impossible under the old system of washing on the wards.

THE INSINGER CO.  
By A. H. Insinger.

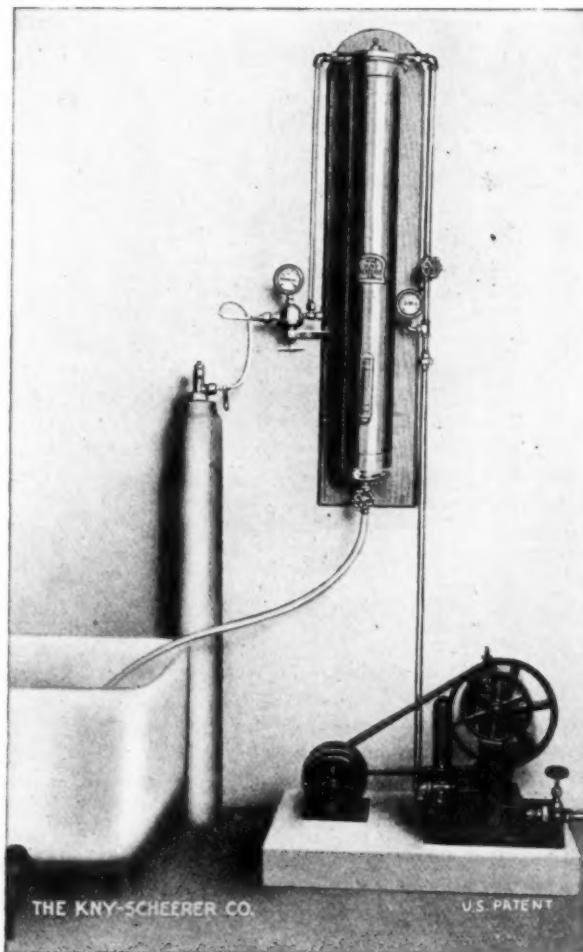
Dr. Henry B. Carriel, for fifteen years superintendent of the Jacksonville (Ill.) State Hospital, has resigned and Dr. Edward L. Hill, of Red Bud, Ill., has been appointed.



VINCENZ MUELLER, Technical Editor.  
GEO. W. WALLERICH, Associate Editor.

**New Carbonic Acid Gas Mixer for Preparing Artificial Nauheim Bath**

As the value of Nauheim carbonic acid gas baths in various ailments (especially in cardiac affections) has been clinically demonstrated, thousands of people from all



Carbonic acid gas mixer for preparing artificial Nauheim baths.

over the world have been traveling every year to Nauheim, Germany, in order to avail themselves of the benefit derived from these baths.

It has now been found quite possible to produce these baths artificially. The patient derives from the taking of them the same beneficial results as obtained in Nauheim. The saturation of the water with carbonic acid must be accomplished so as to form a myriad of diminished gas

bubbles uniformly distributed throughout the contents of the bath tub.

A new apparatus has recently been designed, called the Carbonic Acid Gas Mixer, by means of which, it is claimed, a perfect mixture may be produced. With the aid of this apparatus a physician or hospital attendant can easily prepare a carbonic acid bath and can rely on the water to retain the carbon dioxide for the required period.

The apparatus consists of a nickel-plated copper cylinder 5 inches in diameter and 5 feet long (see illustration). It is attractively mounted on a board with the necessary pressure gauges and controlling valves, and can be fastened to the wall above the tub in which the bath is to be given.

In order to obtain the best results, a minimum water pressure of 50 pounds per square inch is required, and with this pressure a volume of charged water is delivered into the tub at the rate of 3 gallons and upward per minute. Where a 50-pound pressure is not available, either a small auxiliary electric motor force pump, specially constructed for this purpose, or a hand pump, is required.

As water having a higher temperature than 60 degrees Fahrenheit cannot be charged successfully with carbonic acid, it is necessary when preparing the bath first to fill the bath tub with carbonated water, about one half of the entire quantity required for the bath, and then to introduce hot water, sufficient to bring the entire quantity up to the desired temperature.

The mixing with hot water, however, should be done very carefully, introducing the hot water by means of a rubber hose under the surface of the carbonated water, so as to prevent the escape of carbonic acid on a large scale.

It is stated that no technical knowledge is required in operating this mixer, as the action of the apparatus is very simple and can be absolutely relied upon.

**Dr. Walsh's New Hospital Crib**

This crib, designed by Dr. W. H. Walsh of The Philadelphia Children's Hospital and made by the Whitcomb Metallic Bedstead Company, incorporates an entirely new feature in crib construction. The desire has been to have a sliding crib that would do away with the objection to



Dr. Walsh's hospital crib.

ordinary sliding rods now in use, that they are liable to be bent, causing the side to bind, thereby preventing its moving easily up and down. This crib has a special chan-

nel on the posts in which the sides move freely without binding. A new hook with specially designed jaws serves to catch and hold the sides secure when the side is raised. The size of the crib is  $2\frac{1}{2}$  feet by 5 feet, which is the most useful size in a hospital treating only children under twelve years of age. The crib, however, can of course be made any dimensions.

The head and foot are each  $52\frac{1}{2}$  inches high, and wooden plugs have been inserted with domes of silence in place of ordinary casters. In the head and foot there are seven  $\frac{5}{16}$ -inch fillers set into the top rod and cast with smooth, chilled castings. Around the bottom rod there is a half-inch tie rod in head and foot. The head and foot are of half-inch brazed sheet steel tubing in continuous posts. The spring is of two-tinned national fabric, stretched on angle sides and dovetailed for the head and foot ends. The spring is 26 inches above the floor, making it very convenient for nurses in handling the patients and making up the beds. The sides are 25 inches deep, and when rolled to top of side come three inches above the springs in order to be flush with the top of the mattress. The top and bottom rods of the side are  $\frac{5}{8}$ -inch steel tubing with fifteen fillers,  $\frac{5}{16}$ -inch and  $\frac{3}{8}$ -inch. The special channels are concaved to fit in close contact with the posts and are bolted on to the posts with countersunk screws. The channels are enameled with the crib, thus closing all crevices and openings.

#### Electrically Driven Motor Saws and Burrs for Surgical Bone Work

Designed by Dr. Chas. Geiger.

Since the use of bone plates of metal, ivory, animal or vegetable matter, as well as the human bone splint and dowel, has become popular in the treatment of fractures, electrically driven drills, cutters and saws are becoming more and more appreciated by surgeons, consequently, a variety of apparatus has been put on the market.

While none of these devices is absolutely perfect, some of them are better than others. Upon careful examination and trial of the Geiger surgical bone operating outfit, we found that it is one of the best of its kind. The motor is  $\frac{1}{15}$  h. p. and is of the universal type; consequently it can be used on either the 110-volt direct or alternating currents. The speed of the motor is 7,000 revolutions, which is reduced, however, by means of a double set of gears, to 400 revolutions per minute.

Thus one of the principal objections to the use of this apparatus, namely, the excessively high speed, is overcome. It is not necessary to have water dropping on the saws or burrs while in motion, to prevent burning of the bone, which is one of the most objectionable occurrences when electrically driven motor saws or burrs of very high speed are employed.

Various attachments are furnished with the outfit, as will be seen from the illustration, and no matter what technic the individual attending surgeons at the hospital may employ in their bone work, with such an engine in the armamentarium of the hospital the superintendent should be able to satisfy all concerned.

Figures 1 to 4 show twist drills and burrs, of which other shapes and sizes can be furnished upon demand. Fig. 8 shows a guarded trephine, so arranged that it can be set to prevent it from plunging into the cranial cavity. Fig. 9 illustrates the protected cutter, which is an adaptation of the well-known De Martel cutter, which has long been known as an ideal device for cutting flaps. Fig. 5A and Fig. 10 show the single and twin saws, and Fig. 13A the so-called dowel shaper, by means of which round bone

pegs may be produced from strips of bone, taken either from the tibia of the patient or from the bones of animals, according to the technic employed by the individual operator. Fig. 21 illustrates an attachment for holding the flat strips of bone securely, while the dowel shaper cuts the round bone pegs or dowels.



Geiger surgical bone operating outfit and accessories.

The manufacturers state that the winding of the motor is of such a nature that the entire motor may be placed in an electric hot-air sterilizer (Fig. 7), which is furnished for the purpose, and heated to  $130^{\circ}$  C. or  $275^{\circ}$  F. Those who do not like hot air sterilization may purchase an aluminum shell (Fig. 24) shaped so that it will cover the motor entirely, after it has been rendered sterile by boiling. The housing of the motor is of aluminum and the weight of motor and cable is about 4 lbs.

In 1562, Bertrand Le Blas, a gentleman of Holland, who became insane, was given the following humane treatment to rid him of his affliction: "He was dragged on a hurdle, with his mouth gagged with an iron gag, to the market place, and there his right hand and foot were burned and twisted off between two red-hot irons, to drive out the evil that was in his mind." How different from the modern treatment of mental disturbances in the up-to-date psychopathic hospital!



### Hospitals and the Harrison Law

To the Editor of THE MODERN HOSPITAL:

Must hospitals, in accordance with the Harrison law, have a prescription for every dose of the so-called "habit-forming" drugs? And will that make it impossible for nurses to administer morphine hypodermically in the wards and from tablets kept in the medicine cases on the floors? That looks like a pretty difficult method of procedure, if we must have a prescription every time.

PERPLEXED.

Somebody qualified to prescribe medicine should stand behind every dose of these "habit-forming" drugs; a nurse is not so qualified, hence there should be a prescription for every dose given, and it should be signed by the physician who ordered it. I think the law would not interfere with the emergency administration of a hypodermic dose without a prescription, but the prescription should be written on the order book or on the history sheet as soon as the doctor appears. There are too many patients who acquire these drug habits as the result of indiscriminate dosing in hospitals, and one of the purposes of the law is to stop that very thing. Every superintendent knows that an occasional nurse will be prone to give a "quieting dose" to save herself trouble. There are going to be prosecutions under this new law, and there should be; conscientiously conducted institutions will welcome the law, with all it stands for; others should be, and undoubtedly will be, punished for its violation.

### Text-Books for the Training School

To the Editor of THE MODERN HOSPITAL:

Is there any list of approved text-books for use in training schools; we have a new three-year school and wish to start right.

THE WEST.

You had better apply for such a list to your state board of nursing registration. The secretary, usually located at the state capitol, will be glad to give you all necessary help in the selection of text-books and in the preparation of your curriculum; moreover, it will help you to work in pretty close touch with your state board. The board, you know, has to examine graduates for registration and these boards usually have pretty well defined notions about what they expect candidates to know. If there is no board in your state please give us your address and we will place you in possession of the necessary information to enable you to proceed.

### How to Fight Roaches

To the Editor of THE MODERN HOSPITAL:

We are overrun with cockroaches; we have used the advertised "roach remedies" without effect. What are we to do?

MISS LARIMORE, New Jersey.

Your problem reminds me of a story: a fancy amateur hunter, caparisoned in all the "sporting goods" that he could carry, was leaving the duck marshes with never a

bird; he came upon an old negro who carried an old bored-out musket of the vintage of 1861, and a string of ducks that fairly staggered him.

"Did you shoot them on the wing, Uncle?" asked the man in flashy regalia.

"Yaas suh," replied the old man; "on de wing, on de haid, on de tail, anywhares jist so I git 'em."

It is just so with your roaches; you will have to go after them, and keep after them. You can't get them all "on de wing"—that is in any one way. First find out where they live and breed, and pour a good lot of boiling water over the whole place—never mind if it is the floors or in the walls or down the plumbing; the water won't hurt anything but the roaches; then set some saucers around where they can get to them, containing a mixture, half and half, of concentrated lye and molasses; then sprinkle borax in the holes and cracks. Keep up this process for several days, then with plaster of paris paste, fill up every crack where they may make their exit. They will probably get out somewhere else after you have gone to all this trouble, but do not despair; stop them up again; hunting is good sport. The hunting of lions requires courage, one of the least of the virtues; the hunting of roaches requires persistence, one of the greatest. Moreover, there is a good deal of satisfaction in winning a fight—even against roaches.

### Interns and Nurses

To the Editor of THE MODERN HOSPITAL:

Does THE MODERN HOSPITAL and the prominent hospital men on its editorial staff approve of interns and pupil nurses being permitted any sort of social relationship while they are serving the institution, and if so to what extent? There are many divergent opinions on this subject, and in our own hospital we are not all agreed.

A TRAINING SCHOOL DIRECTRESS.

The editors of THE MODERN HOSPITAL are not always agreed on many minor points touching their varied activities; I can only give one opinion, my own; my experience is that the young men and young women who make up these two professions are of a class that can be depended on to do their part in any scheme of institution discipline. If it is prescribed definitely in their rules of conduct that all their relationship while they are on duty shall relate solely to their duties, I believe the rule will be obeyed; those who cannot obey so obviously proper and reasonable a rule are not fit to serve in a confidential capacity in any institution. If we are to go further and say that they shall not meet or visit when off duty, I am under the impression that the demand is an unfair one. I can see no reason why young men and young women, who are constantly thrown together in an intimate relationship at the bedside of the sick, should not form a liking for each other and wish a better acquaintance. I think interns should be permitted to call on the pupil nurses in the Home, and to take them to proper places of entertainment if they wish. These are young people, we must not forget, and many of them, especially the girls, have very few opportunities to form new acquaintances and friends. The wise fisherman gives his quarry "plenty of line" within limits, else he is likely to lose him altogether.

Make love? Of course they are likely to do that very thing. Who would wish to prevent their doing so, if it is done within proper limits? Are they not of the love-making age, and isn't it just human nature that they should do so? If we older folk will not attempt to force prudery and Pharisaism and hypocrisy on these young folk, they will measure up to what we have a right to expect of them.

JOHN A. HORNSBY.

## **A Requisition Form for Purchasing**

To the Editor of THE MODERN HOSPITAL:

Can you give us a good method by which to keep our purchases straight? Sometimes it isn't convenient for the regular buyer to go and pick out things, or she doesn't know just what is wanted, and often when a head of one of the departments has selected something and ordered it, it is wrong when it is delivered or it is different from what the buyer thought it was when she selected it; then there is trouble with the selling house, which often lays the blame on us. MARY T. W., Superintendent.

MARY T. W., Superintendent.

Your method is slipshod and unbusinesslike; you should have a requisition system and use it in every case. Whenever there is a purchase to be made, no matter for whom or for what department, a requisition should be made out and signed by you personally. If you buy the article over the telephone, put down the details at the time of purchase, mail the original to the dealer at once as his memorandum, and keep the carbon. If someone else is to go

A thoroughly workable form of requisition is shown in the illustration; it is made in books of 100, with an equal number of duplicates in different color, to be used as carbon copies. This form, indeed any form, is good only if it is persistently used.

## Ventilating the Operating Room

To the Editor of THE MODERN HOSPITAL:

We have a small hospital with only one operating room where all our surgical work must be done; we have one large window in this room that gives plenty of light; it is pivoted in the middle on each side and opens easily, but our surgeons will not permit it to be opened for fear of dust and soot falling into the field of operation. Do you think this fear is justified, and if not will you give us literature that will convince them? If it is justified, what are we to do about it? The room becomes stifling with foul air during the morning's work. A KANSAS HOSPITAL.

Your surgeons are entirely justified in this attitude; but it isn't necessarily "foul" air that makes the room stifling; it is more likely still air or dead air. You must keep the air in the room moving. A 12-inch fan, moving the air along any one of the side walls will help greatly, and this will necessitate no expenditure except for the fan and the little current used daily. But far the best way is to cut a hole through one of the outer walls, low down near the floor, and mount a small blower fan or even a common room fan in the opening. You can even set the fan on the floor, but be sure you house in the fan with the opening so the suction will be good. The air pulled out of the room will be replaced by new air from the corridor even though the door be kept closed; but it is better to have the transom open if you have one. The idea in having the fan at the floor is to pull out the carbonic acid gas, which, being heavier than atmospheric air falls down on expiration; while the warmer air of a room is above, the bad air is below.

### Diet for Rheumatism and Gout

To the Editor of THE MODERN HOSPITAL:

Some time ago I noticed in a medical publication a list of articles which may be eaten, and others which should be avoided, by those suffering from gout, rheumatism, etc. At the time I clipped out this list, but seem to have mislaid it. I am not quite certain that it was in your journal that I saw it originally, but feeling that you, in all probability, have this information, I write to ask whether you would be kind enough to publish such a list, as it would be of inestimable value to many of your readers.

A ST. LOUIS SUBSCRIBER

The paper on diet to which you refer is that of Miss Lulu Graves, on page 99, February number of THE MODERN HOSPITAL.

### Isolation of the Communicable Diseases

To the Editor of THE MODERN HOSPITAL:

Will you tell us whether it is approved practice to care for those suffering from communicable diseases of childhood along with other sick children in the ward? One of our doctors says that these diseases are communicated only by contact with the infected child, and that if we are careful to see that the patient is kept from actual contact with the other children, there is no danger of transmitting the disease. MISS G. W. N. Denver

no danger of transmission.

I suspect that you misunderstand just what your doctor means; and that is the trouble with this so-called "technical isolation" of the communicable diseases. It is not necessary that the patient actually come in contact with another person to convey the infection; a nurse or intern or doctor may carry the infection on their hands or in their clothing, and the methods of transmission are too numerous

and too common to permit any chances to be taken in a general hospital. The only safe way is to keep these patients in actual, physical isolation by means of walls and doors; and no one who visits these quarters should be permitted in the rest of the house; even doctors are generally too careless to be trusted to carry out a technical isolation such as your doctor proposes. An immense lot of harm has been done by those who advocate this technical isolation; it can be accomplished only in very exceptional cases, such as in an isolation hospital, when the same medical men, the same resident doctors, the same nurses and the same common help are trained in the work year after year—and even then they have what we call "cross infections." In a general hospital with several doctors having the run of the place, with rotating interns and pupil nurses, and constantly changing employees, this sort of technic is out of the question. Better play safe and keep your communicable infections clear away to themselves.

#### Block or Pavilion Type Hospital

To the Editor of THE MODERN HOSPITAL:

We are planning a new two-hundred-bed hospital; there is a question whether it shall be of the block type, several stories high, or of the pavilion style, one or two stories. We should like to know what THE MODERN HOSPITAL thinks about this.

The question of "block" versus "pavilion" type of hospital cannot possibly be settled in the brief space allotted for answers to queries in this column. We can only say that many things must be taken into consideration in determining the style of hospitals: the site, the proximity of the hospital to other buildings, the height of the ground, the locality, country or city. The purpose of the hospital must also be considered, whether, for instance, it is a teaching or university hospital or one solely to take care of the sick. I have in mind now a group of hospitals going up in connection with a great medical school. There are to be eight or ten pavilions for various classes of patients. The surgeons insist that there must be an amphitheater to seat a large number of students, located at a point contiguous to the operating suite, so that operations may be done before the class. But the doctors on the medical service, whose building is situated five or six hundred feet away from the surgical building, also insist that they must have an amphitheater in which cases can be demonstrated. The children's men want the same for their building, and so with the other departments, and all the department heads object to going into another building for demonstration of their cases. The bath department is another item of disagreement. The surgeons object to the removal of their cases over long distances for hydrotherapeutic purposes; the medical men think the hydrotherapeutic department should be connected with their building and yet they don't want to give up the room necessary for it; the neurologists claim that hydrotherapy is one of the sheet anchors of their treatment, and have objected to the hydrotherapy department being situated at a great distance from their department. One can well see that in a block type of building everybody could be well satisfied, because everything would be under one roof and all departments could use a common amphitheater for demonstration before classes, and a common hydrotherapeutic section. It would be merely a question of elevator service—to which no one objects. I have yet to find a single convincing argument in favor of the pavilion type of hospital for the United States. If you want air and sunshine, the higher up you go the more of these you will have. If you want economy of administration, you cer-

tainly have an advantage in elevator service as against traveling on the horizontal, which means a great amount of time spent walking to and fro. If you are thinking about the service of food, the laundry and garbage removal, elevator service is certainly preferable to the wheeling of trucks over long distances. We have taken our pavilion form of hospital from the Germans, where conditions are absolutely different from those that prevail in this country. We seem not to have given any thought to the details of our own enterprises, but to have followed blindly the lead of others whose activities have been predicated on an entirely different set of conditions. It might be that you have some special problem that is exercising the imagination and bringing up questions in the minds of your people; but it would be necessary to know what this special problem is before a more detailed and specific answer could be given.

#### Harrison Law and Graduate Nurses

To the Editor of THE MODERN HOSPITAL:

Will you please grant the kind favor of helping a graduate nurse to an understanding of the relation of the Harrison Anti-narcotic Law to the work of the nurse? I have questioned several doctors here, and there seems to be a variety of opinions in regard to this matter; and of course we nurses must soon be certain what our legal rights are as regards this.

Heretofore, while not compulsory, it was generally understood by trained nurses and doctors (in New England at least) that the nurse should carry, for each case, an assortment of hypodermic tablets (including morphine, plain and with atropine) to be used in emergencies, or in filling the "s. o. s." orders of the patient's attending physician.

Under this Anti-narcotic Law may nurses still legally carry narcotics to their cases, for use under the direction of registered physicians?

Most trained nurses still "have in possession" morphine, and sometimes also codeine, as previously indicated in this letter. Now, how does the law affect such "having in possession?"

If not legal for nurses to carry such narcotics to their cases, is it legal for them to administer such narcotics to their patients if said narcotics are furnished by the physician, and he orders that said narcotics be given to his patient by the nurse, "s. o. s." during his absence or between his professional visits?

If legal for nurses to have such narcotics "in possession" for use under direction of registered physicians, how should nurses proceed in order to procure legally a further supply of narcotics for such use?

If nurses may legally administer narcotics by order of their patients' medical attendants, are said nurses obliged to keep any special record of it, or fill out "official blanks" of any kind?

The doctor may not, of course, be in actual attendance on his patients when a nurse fills some of his "s. o. s." orders. Therefore I infer that he must keep a record of narcotics dispensed under such conditions.

I feel sure that you are in position to give me perfectly accurate information in regard to this matter, and I will be very grateful to you for the favor.

MARY H. TUFTS, Graduate Nurse,  
Farmington, Maine.

Relying to your letter of February 23, enclosing a communication from Miss Mary H. Tufts, a graduate nurse, requesting information regarding the Harrison Narcotic Law, you are advised that under the provisions of this law a nurse cannot be registered and pay the special tax, and she can lawfully have such drugs in her possession only under the direction of a properly registered physician, and such physician must furnish these drugs to the nurse when attending the patient, and any of the drugs unused should be returned to the physician when the nurse's services are dispensed with.





Any questions regarding equipment or other matters connected with the kitchen and dependent departments of food storage and service will be answered in this department. Address communications to The Modern Hospital, Kitchen Department, Metropolitan Building, St. Louis.

#### Refrigerators

To understand the vital points to be considered in refrigerator construction we must first determine the points vital to such construction. It will be generally conceded that these are three in number:

1. Insulation.
2. Air circulation.
3. Durability of insulating material.

Good insulation, in proportion to its degree of perfection, means lower ice consumption. On the air circulation depends the length of time food in storage can be conserved; for the surrounding atmosphere must be dry, and this condition is obtained only with good air circulation. The third point mentioned above is that the insulation shall remain nearly as perfect, after a lapse of time, as when the refrigerator was new.

The easiest way to grasp the first point, insulation, is to study the relative insulating values of the various materials which can be used in refrigerators, which are set forth in the following table compiled by Professor Charles L. Norton, of the Massachusetts Institute of Technology:

The relative values are for the materials in dry condition and one inch in thickness:

Cork sheets, pure.....	1,000
Magnesia carbonate .....	901
Hair felt .....	877
Cork sheets, asphalt cemented.....	870
Air cells, paper.....	794
Cork sheets, hydraulic cemented.....	769
Rock wool .....	763
Asbestos fiber .....	763
Spruce .....	645
Brick wall, 4 inches thick.....	426

The word "dry" at the head of the table is the crux of the situation. When built, the walls of any refrigerator are dry, but time and variations of temperature open up channels for the entrance of moist air into the insulating material; and just in proportion as it absorbs moisture it loses its insulating properties and the cost of cooling the boxes goes up.

The principal trouble about refrigeration is not the source of supply, but the conservation of that supply. In other words, there is no difficulty in procuring cold from blocks of ice, and there is no difficulty in getting a satisfactory refrigeration plant to produce cold at a moderate cost, and the risk attending the selection of any one of the leading makes of plant rather than another is not great.

But the moment the cold is delivered to the refrigerator, either from ice or from a brine system, the risk begins of throwing money away daily by not keeping a grip upon the supply of cold. A little extra money will secure the means of preventing its constant escape during twenty-four hours per day, for 365 days per year.

The important point in refrigeration is the conservation of the supply of cold air in the compartments it is to be used in and the circulation of that air in as dry a condition as possible.

Were it possible to obtain results in practice, air permanently confined in dead air spaces would give ideal insulation, but experience has taught us that no matter how great the care exercised in building refrigerators of this type, the air spaces become leaky, owing to shrinkage of the lumber, or, in large rooms, the settling of the building, and consequently they lose their insulating efficiency.

The ideal insulating medium being dead air in tightly sealed compartments, brings us to the search for that substance which contains the greatest quantity of air cells, hermetically sealed, in its composition. Such a substance is naturally as free as possible from capillary attraction, with its attendant capacity for absorbing moisture. It should at the same time be practically fireproof.

At the head of the list as air-insulating material is cork. Placed under a microscope of high power, cork presents the appearance of a honeycomb. It is composed of tiny air cells, which are all sealed. This prevents the passage of any moisture through its body; therefore cork has for generations been employed to stop up bottles. It is said that cork, which is an extra layer of outer bark, is placed around the trees by nature in order to insulate them from the burning sun and the radiation from the burning sand and rocks of northern Africa and southern Spain, where these trees grow. Cork burns slowly, and when covered with cement becomes practically fireproof; and as a non-conductor it stands easily first.

A new refrigerator, when everything is dry and no cracks or warpings or settling have taken place, gives good results, within the limits of the efficiency of the insulating materials.

Pitch, on the walls of a refrigerator, has small value save that of stopping the entrance of moisture into the insulating material. It cannot insulate, having no air cells, as is amply proven by its weight of 87 pounds per cubic foot as against 10 to 15 pounds for packed mineral wool and 6 to 8 pounds for granulated cork.

Air spaces formed of built-up chambers sealed with paper would be all right if, like the tiny cells in cork, these spaces were hermetically sealed; but they cannot be, and are consequently only efficient in proportion to the absence of passage of air through them. Nail holes and shrinkage of lumber are fatal to efficiency.

Mineral wool and rock wool, in their various forms; shavings, hair felt and pumice stone, owing to their fibrous nature or porous structure, have great power of absorption of water; consequently when any moisture can reach them they at once absorb it and the water thus absorbed displaces the trapped air in their composition and they become consequently conductors of heat.

The following figures will give an idea of insulating values in actual practice. These figures can be taken as sufficiently exact for practical purposes:

Take as a basis a refrigerator 5 feet long, 3 feet deep, and 5 feet high (which equals a capacity of 75 cubic feet), with an inside area or radiating surface of 110 square feet. Assume that the outside temperature is 82 degrees and the inside temperature 32 degrees Fahrenheit; that the walls of the box are 4 inches in thickness and that the melted water is being drained away. One ton of ice will last as follows:

4-inch sheet cork, insulated box.....	33 days
4-inch mineral wool, insulated box.....	11 days
4-inch air space, insulated box.....	8 days

In other words, with the same thickness of wall it takes

three times as much cold to maintain a given temperature in a box insulated with mineral wool as in one insulated with sheet cork; and four times as much as in one insulated with an air space.

In practice these proportions are cut down by the fact that hydraulic cemented cork is mostly used and that thicker walls of mineral wool and air are used than is usual with cork. Still under the most favorable allowances the percentage of saving in favor of a cork insulated installation, especially if the cooling is overhead, over any other form of installation, will very soon save the difference in the original cost. Therefore, unless first cost is everything and everyday maintenance of slight consideration, cement boxes, cork insulated with overhead cooling, must give the cheapest cost for running expense, provided they are properly erected and doors and fittings are perfect in workmanship.

In point of durability cork construction will outlast any other many times over and at the same time maintain its efficiency. Other materials must absorb water; cork cannot absorb water. Water being the enemy of insulation, the deterioration must be more rapid in the material which can absorb moisture.

The first cost seems high, but it is paid only once; and ten years will show that this cost is as nothing compared with the actual cost for the ice wasted in a refrigerator whose insulating material has a low value at the start and which gradually loses what value it has by the absorption of moisture.

The principle of air circulation is simply that hot air goes up and cold air falls down, and as long as the one chases the other around the ice boxes, circulation, which means dry air, must result. One thing must be remembered, however: air cannot circulate unless given sufficient space to pass through. That is why brine coils placed on the sides of boxes are not so effective as when placed on the top. They would be about as effective on the sides if space were left behind them and a baffle put in front of them, but this takes up so much space that it is not practical. Putting the brine pipes on the top means higher boxes, consequently more square feet of insulation and drip pans below the pipes, all causing extra expense to instal; but it is cheap in the long run when every day's refrigeration bill counts.

Pine wood, when good air circulation is present, makes probably the best lining possible, unless the boxes are entirely built out of concrete inside and out, or are concrete lined with marbleoid. Wood, cement and marbleoid do not sweat. Consequently where they are used no moisture is generated on the side next the insulating material, as must invariably be the case with tile, glass or metal.

All of the foregoing applies with especial force to the larger sized refrigerators used for storage. The necessity for perfect construction and insulation in these is greater than in small refrigerators because they are a permanent heavy investment and the amount of ice or brine refrigeration necessary becomes an important item of expense.

In small refrigerators, while the same principles apply absolutely, there are other factors which enter into the question. The ease with which tile or glass lined boxes may be cleaned counterbalances the deterioration of the insulating material to a great extent. Then, too, a small refrigerator is not looked upon as a permanent investment, and while the percentage of ice lost may be the same as in the large boxes, the total sum, in the opinion of most people, is insignificant. The first cost of cork insulation cuts an important figure in many cases. So that

while the principle is the same, the purchase of small refrigerators is a matter which will always be guided by the means at command and the preferences of the individual buyer, although the wiser ones will always look out for the quality of insulating material first, if they wish to save on ice. The small refrigerator with sufficiently thick walls may therefore be of various construction, and have various linings, and give perfect satisfaction for all practical purposes; and sufficiently good results can be obtained from any of the first-class makes on the market without undue expenditure of money.

#### New Surgical Ward at Battle Creek Sanitarium

The new four-story surgical ward recently completed at the Battle Creek Sanitarium, Battle Creek, Mich., is an interesting example of modern hospital construction.

The walls and ceilings of the entire operating suite, consisting of four rooms, are of glass, and the floors are mosaic. These rooms are air-tight, and all the air that is let into them is washed and warmed in winter, and washed and cooled in summer. The temperature is kept the same the year around. The rooms are cleaned by throwing hot water on the walls and ceilings with a high-pressure hose. The windows of these rooms have been made of a solid piece of glass of the finest quality of pure crystal, the object being to eliminate even the faintest shadow of a window sash or catch.

The corners of the operating room, as well as of the halls and bedrooms throughout the building, are rounded.

All heating radiators are equipped with regulators, which keep the room at an even temperature. The steam enters the top of the radiator and comes out at the bottom in the form of water.

On each floor there are two double-walled rooms, in which groaning or delirious patients may be confined so that others will not be disturbed.

A hydraulic elevator, which operates noiselessly, will be used to move patients from one floor to another.

The cost of the equipment alone, it is said, will amount to about \$50,000.

#### Marriage Law For Defectives

A recommendation recently made to the Michigan legislature by the state eugenics commission appointed in 1913, urged that a law be enacted making it obligatory that the name of each individual who may be cared for in a public or private institution in Michigan for the insane, delinquent, dependent, mentally defective or epileptic, be filed in the office of the state board of health by the officer in charge, such names to be held in privacy, and that before the clerk of any county may issue a license for marriage he shall submit the name of the applicant to the secretary of the state board of health. If any information is in the official possession of the state board of health which shows that such individual has been adjudged insane or shown to be feeble-minded, epileptic or afflicted either with active or latent sexual disease the license shall be denied. It was also recommended that each of the state institutions for the care of the insane, epileptic and feeble-minded be authorized to employ a field worker whose duty it would be to exercise a systematic supervision over discharged patients. As an instance of the lack of laws for the enforced segregation of feeble-minded persons, the commission cited a case in which county officials had permitted the marriage of a feeble-minded woman, who had only the mentality of a child of seven and one-half years, to a man of questionable mentality, in order that the county might escape further cost of supporting the woman.



#### The San Francisco Convention

Secretary Boyce of the American Hospital Association has sent out the following letter to the hospital people of the United States and Canada:

Every superintendent should attend the meeting of The American Hospital Association to be held at Hotel Inside Inn, San Francisco, June 22, 23, 24 and 25, 1915.

From the standpoint of health and attractions this great city is unsurpassed. The great Panama-Pacific Exposition will be at its height. The American Medical Association and the American Nurses' Association meet at the same time. Perhaps never again will there be such a large number of men and women gathered together for the purpose of discussing the best methods of rendering decay less rapid, life more vigorous and death more remote. There will be an opportunity for hospital workers to talk over their problems with experienced hospital administrators. The program will be most instructive.

Most boards of trustees now know that it pays to send a representative to these conventions. No superintendent can keep pace with the giant strides of progress in hospital architecture, administration, etc., if he confines himself at home, and it is unfair to expect any superintendent on his meagre salary to finance his attendance at conventions.

On account of the severe nervous strain of institution work it is necessary that the head of a hospital should take a holiday occasionally. In fact, a superintendent who works eleven months in the year is worth more than the one who works twelve. This is the time to arrange with boards of trustees for attendance at the convention.

The Association's special train will leave Chicago, Ill., June 13th. For particulars and reservations write Mr. Asa Bacon, Treasurer and Superintendent, Presbyterian Hospital, Chicago, Ill.

Let us unite to make the Non-commercial Exhibit the best yet. A pamphlet containing full particulars has been mailed to each member. It is to be hoped that every superintendent has contributed to this exhibit before now. If you have not already sent something please forward some article to Miss Lydia H. Keller, R. N., Northfield, Minn., today.

Doubtless the commercial exhibits will far surpass anything yet. Each of the associations will have an exhibit.

The cooperation of the members is earnestly solicited in assisting to increase the membership of the Association. An ounce of personal interview is worth a ton of circular letters. A word or a personal letter from one member of the Association to a superintendent friend who is not a member will do as much good as a hundred circular letters from an Association official to a hospital superintendent whom he does not know. The president and officers of the Association urgently request that each member of the organization try to induce at least one person to join before the meeting in June.

The secretary will be pleased to forward literature and application blanks.

The fee is \$5.00 for active members; \$2.00 for associate members. This entitles the applicant to a free copy of the transactions, which retails at \$2.00.

#### New Hospital for Nova Scotia

In August last there was opened in the town of Glace Bay, Nova Scotia, the Glace Bay General Hospital. This is a fine institution with a capacity of about eighty beds. The building is of brick, three stories, with a full-size basement. The two wings radiate in stellar form from the main building. The institution is equipped with an elevator, operated by hydraulic power, a refrigerator, and an ice making plant. The hospital is altogether well equipped, and is in charge of Miss Edith A. MacCarthy. Glace Bay is a very active mining town of about 17,000 population.

There is another hospital, St. Joseph's, of about one hundred beds capacity, situated in the same town, which is surrounded by a number of other smaller mining places, which contribute to the hospital service.

#### War on Jersey Mosquitoes

The Bergen County (N. J.) Board of Freeholders has appropriated \$14,000 to aid in mosquito extermination. Representatives from the New Jersey State Commission appealed to the board, asserting that the neighboring counties of Hudson, Essex and Union were complaining because of Bergen's seeming indifference. Last year the board appropriated only \$800.

Dr. Simon J. Young, Health Commissioner for Porter County, Indiana, has taken an advanced step in public health by equipping the county laboratory for the work of making free Wassermann tests to all citizens of the county. New York is the only other state that has undertaken this work as a part of the health propaganda.

The Public School Board of Petersburg, Va., has decided to have a physical examination made of all children in the public school by physicians selected by the parents, without cost to them, the doctors having offered to perform the work without charge.

Milwaukee, Wis., is planning free dispensaries and clinics in the public schools, not only for the pupils but for the neighborhood generally. This is the most advanced stand taken yet in an American municipality in the socialization of medicine.

The New York City Department of Health has ordered printed signs to be posted in all stores where groceries, meats, fruits and other vegetables are displayed for sale, directing attention to the ordinance forbidding the bringing of dogs into such places.

The Red Cross badge of honor, second-class, has been conferred on Dr. McDonald, chief surgeon of the American Red Cross Hospital Unit, Budapest, and on Surgeons Jewett and Miller of the staff of the hospital.

Drs. Ethan F. Butler and Ernest P. Magruder, both of Washington, of the Servian Red Cross Unit, have converted a tobacco factory at Gevgalia into a hospital with a capacity of 1,400 beds.

Dr. Charles Hedinger is the oldest doctor practicing medicine in the United States. Dr. Hedinger graduated from Goettingen University in 1842 and has been practicing for seventy-two years.

## TRAINING SCHOOL PUPILS FROM CANADA

**Ruling of the Commissioner of Immigration Relaxes Law Against So-called "Alien Labor"**

It has been a mooted question ever since the new immigration law went into effect as to whether or not advertisements could be placed in Canadian papers for pupils for the training schools in the United States. For a time the practice was forbidden and a ruling was made that such advertisements were explicitly in violation of the law against making contracts for so-called "alien labor."

Recently the City Hospital of Cleveland, through its superintendent, Mr. Howell Wright, placed some advertisements in Canadian papers, inviting pupil nurses into the training school of that institution. The local immigration officers threatened prosecution and the matter was finally referred by Mayor Baker, in a masterly legal argument, to the commissioner himself. The whole matter was threshed out before the law department of the Immigration Bureau and as a result the following letter was received by Mayor Baker, permitting such advertisements and permitting training schools in the United States to seek and accept Canadian young women:

March 6, 1915.

Hon. Newton D. Baker,  
Mayor City of Cleveland, Ohio.

Dear Sir: Receipt is acknowledged of your letter of the 26 ultimo, addressed to the Secretary of Labor, with reference to the matter of securing pupils from Canada for the training school for nurses which is conducted in conjunction with your city hospital.

Under the present practice, it is permissible for the hospital authorities to advertise in Canadian newspapers and to accept aliens from Canada as students in the training school.

Very truly yours,  
For the Commissioner-General:  
(Signed) A. WARNER PARKER,

Law Officer.

This letter does not cover another difficult point which concerns advertisements for and acceptance of graduated nurses in Canada for salaried positions in the hospitals of the United States; and until a further ruling is made such practice is forbidden under the immigration laws.

## BETTER SURGERY FOR THE WAR

**Dr. Alexis Carrel to Have His Own Nurses and Trained Technists in France—Rockefeller Institute Provides Means**

Miss Catherine Lilly, head nurse of the department of surgery in the Rockefeller Institute for Medical Research, has gone with a detachment of Red Cross nurses to Compiegne, France, near the northern battle front, to assist Dr. Alexis Carrel in the hospital provided for him by the French government.

For the use of the patients in charge of Dr. Carrel and his assistants, the government has requisitioned a hotel, which has been converted into a hospital with accommodations for about one hundred persons. The government will provide administrative officers as well as competent surgeons suggested by Dr. Carrel, to carry on the regular work, thus leaving Dr. Carrel free to perform his characteristic operations, especially in the line of transplanting tissues, blood vessels and nerves, and blood transfusion, and to conduct the laboratory studies which are about to be undertaken. In order that the work under Dr. Carrel may not only be of the greatest effectiveness at the moment, but may be made permanently available to the world of science, the Rockefeller Institute is equipping Dr. Carrel's hospital with complete apparatus for research in the

bacteriological, pathological, chemical and surgical conditions which may arise.

Dr. Carrel, who was spending his vacation in France at the outbreak of the war, immediately offered his services to the French government, which were accepted. He was detailed to the military hospital at Lyons, at which there were referred to him especially the wounded with injured blood vessels and nerves, in view of the research work which he had done in these classes of injuries. From the application of the method which he discovered for suturing and transplanting blood vessels and tissue, it was possible to save limbs which otherwise would have inevitably been lost. Dr. Carrel has now been given special facilities as near as possible to the line of battle, because of the unusual conditions which have developed in this conflict incident to trench warfare.

In carrying out the enormous work incidental to military operations, one government alone could hardly undertake at this critical period to organize hospitals and laboratories for conducting research work. They must be quite content to deal with conditions as they arise. It is just there that Dr. Carrel's peculiar qualifications come in, and in that respect that the contribution of the Rockefeller Institute is largely made.

Hence it is that he is to have a staff consisting of bacteriologists, chemists and technicians, forming a laboratory unit in addition to the regular surgical unit of the hospital. He is fortunate in being joined by Dr. H. D. Dakin, who has been for many years in this country and has a distinguished reputation as a chemist. He has been assigned to take charge of the chemical part of the humane work of investigation.

The Rockefeller Foundation has just voted an appropriation of \$20,000, to be used under the direction of the Rockefeller Institute, in furthering medical research work under war conditions.

The Institute has had many appeals made to it for serum for use in the treatment of meningitis and dysentery, and these serums have been distributed freely.

## Mayos Would Found Million-Dollar Clinic

Drs. William J. Mayo and Charles H. Mayo, famous surgeons of Rochester, Minn., have offered to establish a \$1,000,000 foundation for medical research, to be under the control of the University of Minnesota, subject to certain restrictions.

The plan provides that the interest of the fund be used in research work at Rochester, which shall be open to graduates of the medical department of the university.

For years the Mayo brothers have conducted a surgeons' clinic at Rochester, and they now propose to put the work on an official basis, making provision for graduate instruction at Rochester which will lead to an additional degree at the university.

The faculty of the university medical college has already voted its approval of the Mayo proposition and it is thought to be certain that the proposal will be accepted.

Dr. Nordhoff-Jung, a woman physician connected with the American Red Cross Hospital in Munich, reports that an attempt is being made to establish an American Red Cross Hospital near Metz. This location is not far from the battle line and would give the hospital an opportunity to care for men whose condition does not warrant removal to a more distant German hospital. The report states that all the available hospitals in that region are filled with wounded and that private houses are being pressed into service.